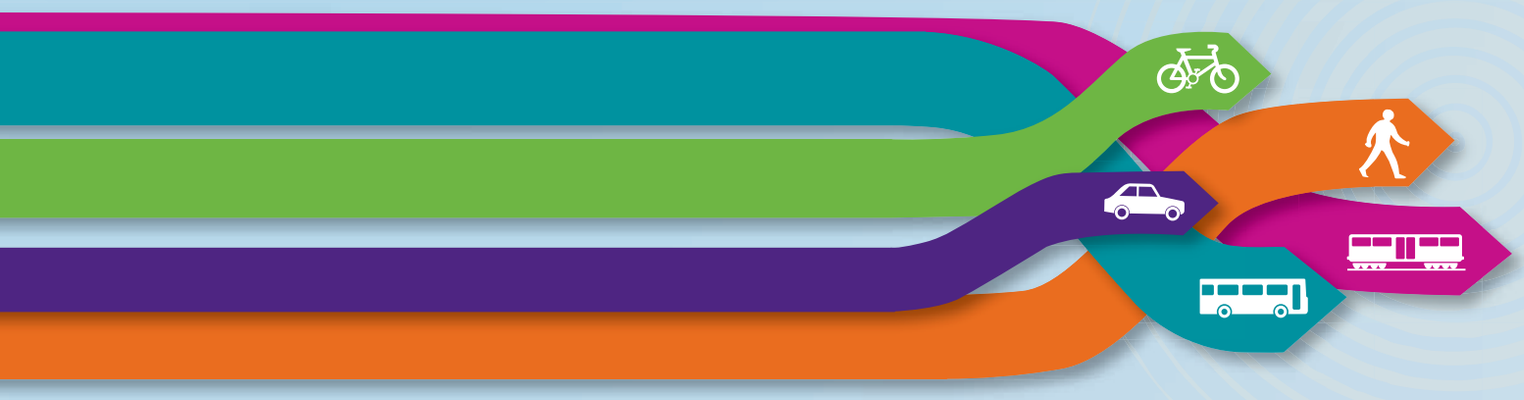
Worcestershire Parkway Station

Annexes



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worcestershire county council

WORCESTERSHIRE LOCAL TRANSPORT BODY

FUNDING APPLICATION

WORCESTERSHIRE PARKWAY

May 2013

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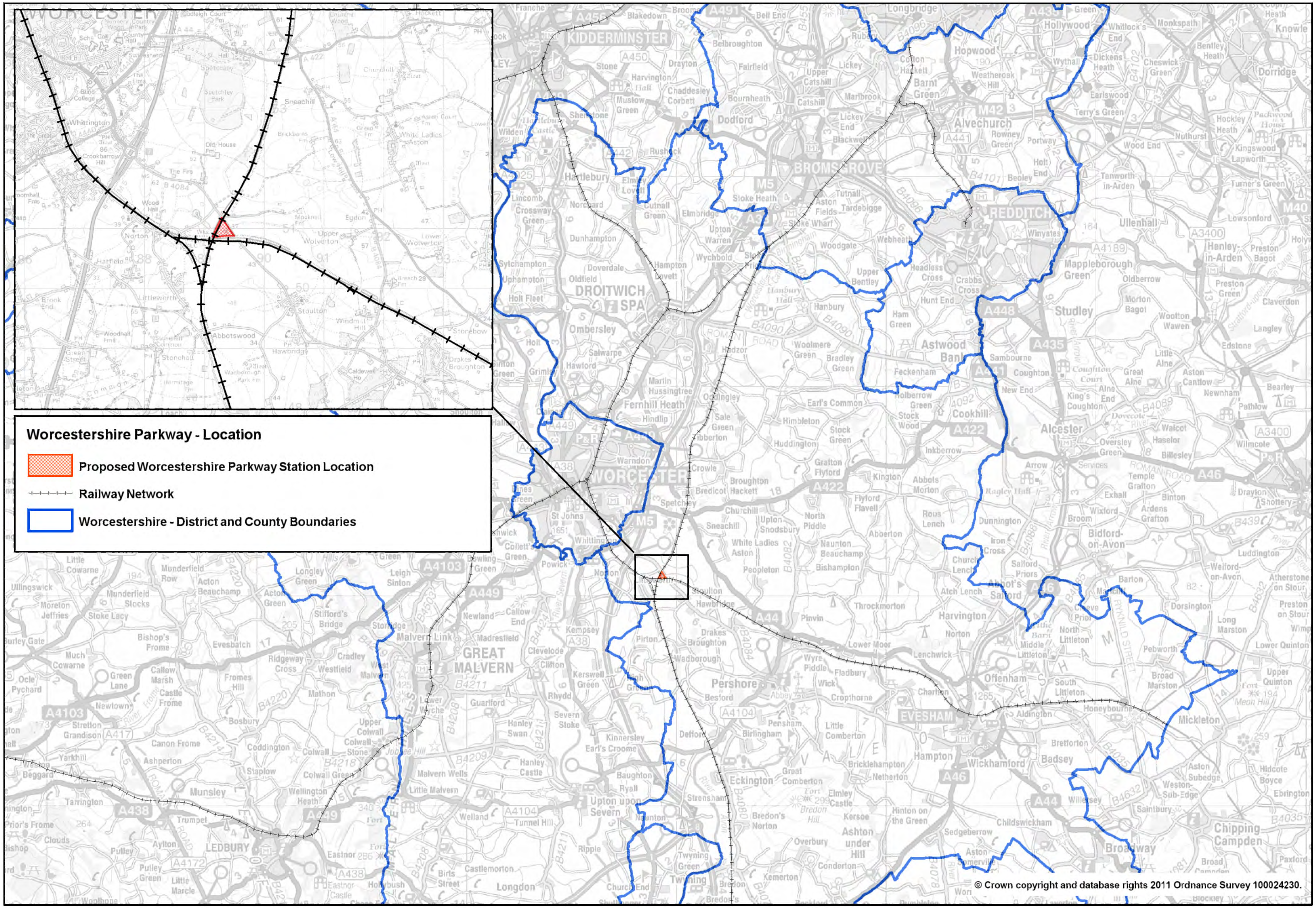

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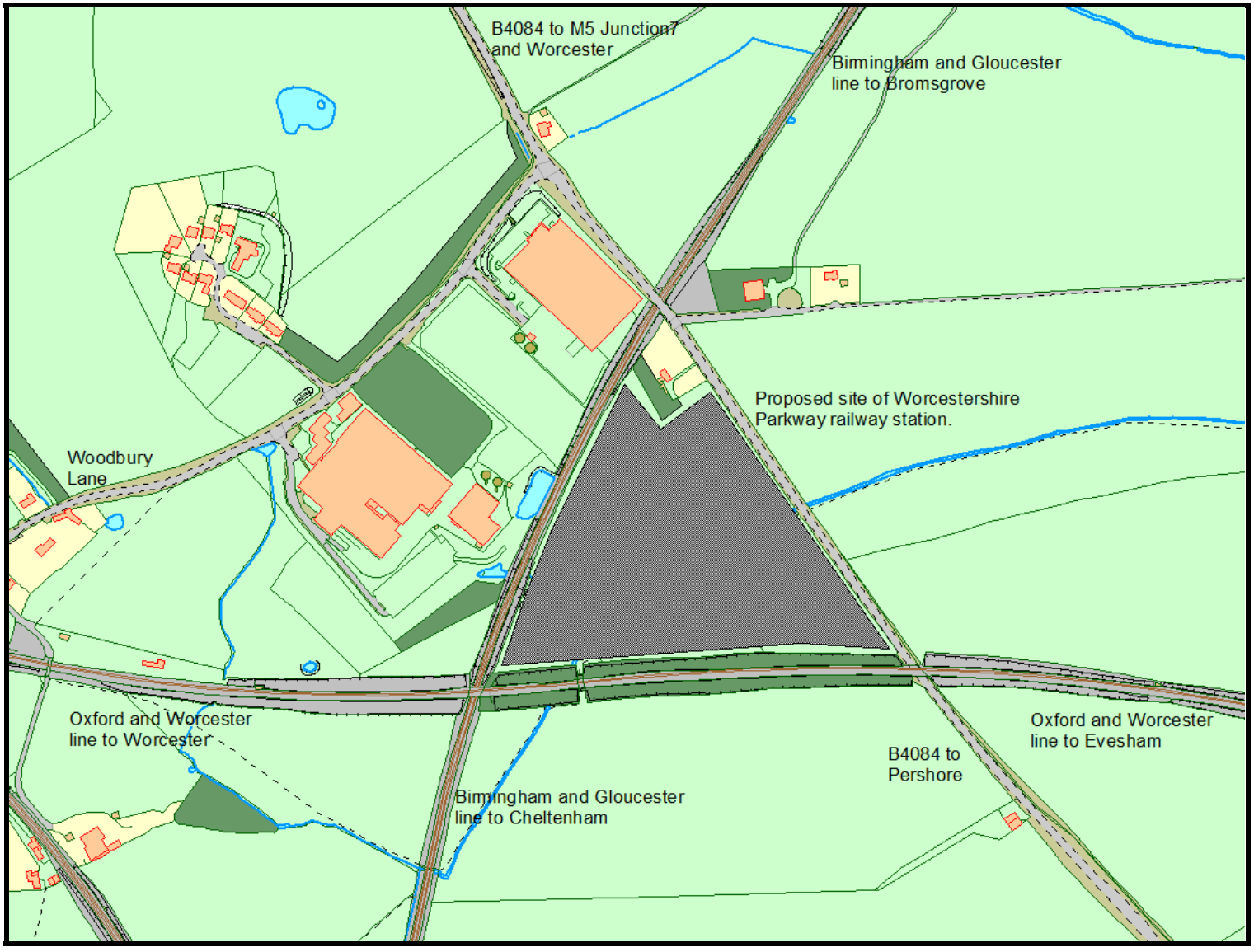

Worcestershire County Council

Worcestershire Parkway Regional Interchange
Operational Timetable Assessment

Final Report

Controlled Copy No.1
Project No.B50083

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1.0 Executive Summary

This report documents the study undertaken by Corus Railway Infrastructure Services on behalf of Worcestershire County Council to understand the timetable, operation and capacity issues associated with the proposed Worcestershire Parkway station.

The May 2008 timetable, Monday to Friday service, has been used for the purposes of this study. RailSys software was also used to study sectional running times (SRT's) and alterations to SRT's that are caused by infrastructure enhancements. RailSys has also been used to assist in identifying conflicts in the timetable in the Worcester area. RailSys is a microscopic tool that models in detail the combined effect of infrastructure, traction and timetable. A capacity analysis has also been conducted of the Evesham to Norton Junction section of the Cotswolds Line.

The study looks at the impact on the current timetable of trains stopping at Worcester Parkway, firstly with no alterations to the current railway infrastructure, and secondly taking into account infrastructure enhancement schemes that are currently being developed by Network Rail that will affect the operation of Worcester Parkway station. Proposals to enhance the line between Birmingham and Bristol were provided by Network Rail, and could be subject to change. Details of the Cotswold Line enhancement have been drawn from the capacity and modelling work that Corus carried out for Network Rail in the development of the scheme. Again details of this scheme could change as it develops.

Network Rail is also involved in a scheme to extend the London Midland Cross City service from Barnt Green to Bromsgrove, with associated infrastructure alterations. However, this scheme is at a very early stage of development and until a single option for infrastructure enhancement is chosen and a timetable specification is published it is difficult to assess the impact on trains stopping at Worcester Parkway.

An additional stop at Worcester Parkway is likely to add 3 to 3½ minutes to the journey time of a current non-stop train.

There are 16 trains in both directions on the Cotswold line Mondays to Fridays in the current timetable, of which 15 will be able to stop in the Down (Worcester bound) direction and 12 in the Up (Oxford bound) direction, without significant impact on the timetable.

The Cotswold Line infrastructure enhancement scheme being developed by Network Rail should allow 2 further trains to stop at Worcester Parkway in the Up direction. These are highlighted in red in the table below. The enhancement scheme will still leave a single track route between Evesham and Norton Junction, so the problems and restrictions of single line operation will remain.

A useful service can be provided from Worcester Parkway towards London in the morning peak with arrivals in London at 07:58, 08:51, and 09:41 possible. Returning from London in the evening peak to Worcester Parkway departures from London at 15:51, 17:22, 17:52, 18:22, and 19:22 would also be possible.

The trains able to stop at Worcester Parkway are listed in the table below:

Down (Worcester bound) trains				**Up (London bound) trains**			
Train ID	Depart Worcester Parkway	Origin	Destination	Train ID	Depart Worcester Parkway	Origin	Destination
2E04	06:20	Evesham	Worcester Foregate St	1P08	05:50	Great Malvern	London 07:58
1W07	08:09	London 05:43	Worcester Foregate St	1P14	06:31	Hereford	London 08:51
2W00	09:16	London 06:00	Worcester Foregate St	1P26	07:39	Abergavenny	London 09:41
1W15	10:13	London 07:51	Great Malvern	1P32	08:48	Worcester Foregate St	London 10:59
1W01	11:04	London 08:51	Hereford	1P36	09:45	Worcester Foregate St	London 11:58
1W19	12:11	London 09:51	Worcester Foregate St	1P44	11:37	Great Malvern	London 13:59
1W02	14:01	London 11:51	Hereford	1P57	14:20	Hereford	London 16:59
1W39	16:02	London 13:51	Great Malvern	1P66	16:23	Hereford	London 18:30
1W47	18:02	London 15:51	Worcester Shrub Hill	1P72	17:31	Great Malvern	London 19:59
2E94	18:53	Oxford	Worcester Foregate St	1P78	19:04	Worcester Foregate St	London 21:29
1W03	19:33	London 17:22	Hereford	2E96	19:42	Worcester Foregate St	Oxford 21:22
1W57	20:14	London 17:52	Worcester Shrub Hill	1P84	21:09	Worcester Foregate St	London 23:25
1W04	20:34	London 18:22	Hereford	1P90	22:56	Great Malvern	London 01:17
1W67	21:39	London 19:22	Great Malvern				
1W77	00:06	London 21:48	Worcester Shrub Hill				

There are three trains that cannot stop at Worcester Parkway without causing serious conflicts with other trains. They are as follows:

- 1W71 20:20 London Paddington to Great Malvern.
- 2E90 06:53 Worcester Foregate Street to Oxford.
- 1P49 12:39 Worcester Foregate Street to London Paddington.

In the current timetable the capacity utilisation between Evesham and Norton Junction averages just over 56%, however there are 10 half hours of the day when the capacity utilisation is over 70%. With trains stopping at Worcester Parkway this increases to 14 half hours of the day. This capacity utilisation can only be reduced by reducing the length of single line on this section of the route and installing an additional block section to allow trains to follow each other closer together. It is not thought that the increase in capacity utilisation attributable to trains stopping at Worcester Parkway would cause the timetable to be rejected by Network Rail Train planning.

There are significant restrictions on timetabling and operation of trains in the Worcester area with absolute block signalling, and single line sections between Worcester Shrub Hill and Henwick Signal Box, and Malvern Wells and Shelwick Junction.

Nottingham to Cardiff services can stop at Worcester Parkway without impacting on other services. Retiming of these services will be necessary through to as far as approaching Cardiff Central.

Cardiff to Nottingham services can mostly stop at Worcester Parkway with some retiming to other services on the Worcester to Hereford route. However, there are a few services at the start and end of the day that cannot stop at Worcester Parkway due to making additional stops at Ashchurch and Bromsgrove, and thus would conflict with London Midland services approaching Birmingham New Street.

The Birmingham to Bristol Cross Country services that depart Birmingham New Street at 10 minutes past the hour can stop at Worcester Parkway, with some being retimed through to Bristol Temple Meads. The train that departs Birmingham New Street at 19:10 conflicts with a First Great Western service at Cheltenham Spa, and thus will not be able to stop at Worcester Parkway.

The Birmingham to Bristol Cross Country service that departs Birmingham New Street at 40 minutes past the hour cannot stop at Worcester Parkway without conflicting with the Great Malvern/Worcester – Bristol/Warminster service, and the Cheltenham Spa – London Paddington service. The linespeed enhancements proposed by Network Rail for the Birmingham to Bristol line will not remove these conflicts because most of the improvements are taking place to the south of Cheltenham Spa.

The Bristol to Birmingham Cross Country services will conflict with the London Midland Redditch – Four Oaks service at Barnt Green, if the Cross Country services stop at Worcester Parkway. This situation will continue until any changes are made to the timetable associated with the proposed extension of London Midland Cross City services to Bromsgrove and increase in frequency of services to Redditch. The impact of trains stopping at Worcester Parkway will need to be reviewed when an infrastructure option is chosen and a timetable specification is made available.

The first and last trains able to stop at Worcester Parkway in the Down (southbound) direction are shown in the following table:

First trains of day				
Train ID	Departure time from Worcester Parkway	Origin	Birmingham New Street depart	Destination
1V05	07:39	Derby	07:10	Plymouth
1V01	08:02	Derby	07:30	Cardiff Central
1V21	08:39	Derby	08:10	Plymouth
1V08	08:59	Nottingham	08:30	Cardiff Central
Last trains of the day				
1V58	19:59	Nottingham	19:30	Cardiff Central
9V73	20:09	Edinburgh	19:40	Bristol Temple Meads
1V74	20:39¶	Manchester	20:10	Plymouth
9V76	21:39$	Edinburgh	21:10	Bristol Temple Meads
9V79	22:39*	Edinburgh	22:10	Bristol Temple Meads

Notes:
¶ Will require 2T38 21:00 Cheltenham Spa to Bristol Temple Meads to be retimed 4 minutes later from Cheltenham Spa, although it should be able to arrive Bristol Temple Meads at the same time as currently due to pathing time in its schedule.
$ Will require 2B98 22:00 Cheltenham Spa to Swindon to be retimed 4 minutes later to follow from Cheltenham Spa
* Will require 2B99 22:32 Worcester Shrub Hill to Gloucester to be retimed 4 minutes later to follow from Abbotswood Junction

For the trains that stop at Worcester Parkway a journey time of roughly 12 minutes to Cheltenham Spa, 50 minutes to Bristol Parkway, and 1 hour 5 minutes to Bristol Temple Meads would be achievable.
Trains that are able to stop in the Up (northbound) direction are shown in the following table:

Train ID	Origin/Time	Cheltenham Spa depart	Worcester Parkway depart	University arrive	Birmingham New Street arrive	Destination
1M53	07:09 Gloucester	07:19	07:38	08:09	08:16	Nottingham
1M46	08:45 Cardiff	09:57	10:15		10:45	Nottingham
1M60	09:45 Cardiff	10:57	11:15		11:45	Nottingham
1M83	10:45 Cardiff	11:57	12:15		12:45	Nottingham
1M64	11:45 Cardiff	12:57	13:15		13:45	Nottingham
1M66	12:45 Cardiff	13:57	14:15		14:45	Nottingham
1M68	13:45 Cardiff	14:57	15:15		15:45	Nottingham
1M71	14:45 Cardiff	15:57	16:15		16:45	Nottingham
1M73	15:45 Cardiff	16:57	17:15		17:45	Nottingham
1M75	16:45 Cardiff	17:57	18:15		18:45	Nottingham
1M77	17:45 Cardiff	18:57	19:15		19:45	Nottingham

If the conflicts at Barnt Green between the Bristol to Birmingham service and the Redditch to Four Oaks services cannot be resolved, then passengers travelling between Bristol and Worcester Parkway would have to change trains at Newport, with a journey time of about 2 hours 15 minutes.

This study has been based on the May 2008 timetable with the railway infrastructure that is operational currently. The conclusions and observations regarding the impact of opening Worcester Parkway station will be valid until either the infrastructure alters on the Oxford to Worcester route and the Birmingham to Bristol route, or the timetable structure alters on these routes.

The Cross City line extension to Bromsgrove should be considered when a final option for the infrastructure enhancement is identified between Longbridge and Bromsgrove and a timetable specification is published, so that the impact of Worcester Parkway can be assessed against this new service pattern.

Additional services could stop at Worcester Parkway if additional infrastructure was provided to ease pinchpoints elsewhere on the network. The single line between Evesham and Norton Junction and between Worcester Shrub Hill and Henwick Signal Box reduce the flexibility of the timetable on the Cotswold line, together with the absolute block signalling that controls train movement in this area. The flexibility in the timetable to accept additional journey time caused by stopping at Worcester Parkway on the Birmingham to Bristol route could be enhanced if infrastructure was provided to remove the need to terminate trains in through platforms at Cheltenham Spa. This would in turn allow the full benefits of the proposed Network Rail linespeed enhancement scheme to be exploited.

This study should be circulated to Network Rail for consideration with other schemes that affect the Cotswold line and Birmingham to Bristol line. The train operators First Great Western, Arriva Cross Country and London Midland should also receive a copy as they will need to be consulted about the proposed additional stop at Worcester Parkway, any affect on the timing of other train services, and any impact it might have on their aspirations to amend their train services in the area of this study. Other local authorities may also require a copy of the study as the proposal for Worcester Parkway may affect their aspirations for additional stations and services for example Gloucester Parkway, Chipping Camden, and Bromsgrove station new situation.

2.0 Glossary

Absolute Block Signalling	No more than one train can be within the section of line between the last signal (known as the section signal, i.e. the most advanced signal) passed by a train at one signal box and the first signal (known as the outermost signal) at the next.
Aplan	A database that is kept by Network Rail but also used by train operators that stores data that is necessary for constructing and validating train schedules. Sectional running times, traction, different weights of trains, routes, different running lines, stations and platforms are held in this database.
Class 142	Also known as Pacers, were introduced to local and rural routes around England and Wales from 1985. They have a top speed of 75 mph, with each coach having a diesel motor underneath. Each unit is formed of 2 coaches and they can be coupled together to form longer trains. The doors are electronically controlled.
Class 150	Also known as Sprinters, were introduced to local and rural routes around England and Wales from 1985. They have a top speed of 75 mph, with each coach having a diesel motor underneath. Units can be formed of 2 or 3 coaches and they can be coupled together to form longer trains. The doors are electronically controlled.
Class 158	Introduced to inter-urban routes around the country from 1989 onwards. They have a top speed of 90 mph, with each coach having a diesel motor underneath. Units can consist of either 2 or 3 cars, and these can be coupled together to form longer trains. The doors are electronically controlled.
Class 165	Also known as Networkers, were introduced to suburban routes from London Paddington from 1992. They have a top speed of 90 mph, with each coach having a diesel motor underneath. Units can consist of either 2 or 3 cars, and these can be coupled together to form longer trains. The doors are electronically controlled.
Class 170	Introduced to inter-urban routes around the Midlands from 1998. They have a top speed of 100 mph, with each coach having a diesel motor underneath. Units can consist of either 2 or 3 cars, and these can be coupled together to form longer trains. The doors are electronically controlled.
Class 180	Also known as Adelantes were introduced on to routes from London Paddington to the West of England in 2000 and withdrawn in 2008, these have a capability of 125 mph maximum, with superior acceleration to HST's. Each coach has a diesel motor underneath, and each unit consists of 5 coaches. They can be coupled to run as a 10 coach train. The doors are electronically controlled.

Class 220/221	Also known as Voyagers were introduced from 2000 on Cross Country routes radiating from Birmingham New Street. They have a top speed of 125 mph, with each coach having a diesel motor underneath. Class 220 units are in 4 coach formations and class 221 in 5 car formations, however at the time of writing this report the trains are being reformed into 4 and 6 car formations. Class 221 units have an ability to tilt round curves to enable higher speeds, however there are no routes in the area of this study where this actually takes place. These units can be coupled together to form longer trains and their doors are electronically controlled.
Class 323	Introduced 1992 onto routes operating around the West Midlands area. They are powered by electric overhead wires and have a top speed of 90 mph. Each unit consists of 3 coaches, but they can run in multiple with other units. They have electrically operated doors.
Headway	This can be either a distance headway but more commonly a time headway. This is the margin between two trains following one another, so that the driver of the second train always sees a green signal aspect, and therefore does not have to restrict the speed of the train.
HST	High Speed Train, introduced in the mid 1970's with a maximum speed of 125 mph. It is a fixed formation with a diesel power car at either end of the train and eight coaches (in the case of First great Western) in between. The coaches have slam doors.
Pathing time	This is a time allowance that is used when scheduling trains. It is added to a trains schedule when otherwise a scheduled confliction would occur with another train.
Rules of the Plan	Are issued by Network Rail and contains information necessary for timetabling trains, for example train timing points, route opening hours, headways, junction margins, minimum dwell times at stations, minimum turnround allowances at stations, engineering time allowances.
Single line	There is only one railway track which is used by trains in either direction.
S.R.T.	Sectional Running Time is the time taken for a train to travel between two locations. This can be for the train to start, pass or stop at either of these locations.
Token Block Working	Access to the block section (section of route between one signal box and the next under Absolute Block signalling) is controlled by the driver being required to be in possession of a token. In the case of the section of route between Evesham and Norton Junction the driver of a Down (Worcester bound) direction train can collect the tokens from cabinets on the platforms at Evesham which are electronically issued by the signalman. The token is either relinquished to the signalman at Norton Junction, requiring

an additional stop at Norton Junction, or can be handed to the platform staff on arrival at Worcester Shrub Hill. The driver of an Up (Oxford bound) direction train will generally collect the token from the platform staff at Worcester Shrub Hill, or it can be collected from the signalman at Norton Junction, however this will again require an additional stop. The token is relinquished on arrival at Evesham by the driver returning the token to a cabinet on the platform. Token block is also used between Evesham and Moreton-in-Marsh.

W.T.T. Working Timetable which is published by Network Rail shows all train movements including freight trains, empty coaching stock and light engine moves, postal services, route learning and test trains. It contains information that is required in the operation of the railway and are generally only for internal rail industry use.

3.0 Introduction

3.1 Client Requirements

Worcestershire County Council wishes to understand the timetable, operational and capacity impacts of the proposed Worcester Parkway station. The study has used RailSys software to derive new sectional running times for trains stopping at Worcester Parkway, and to highlight timetable conflicts that occur in the Worcester Shrub Hill and Worcester Foregate Street area. The May (Subsidiary) 2008 working timetable has been used for the evaluation of the impact on services. A capacity analysis has also been carried out on the line between Evesham and Norton Junction to assist with identification of pinch points in the timetable.

3.2 Existing Issues

Worcester Parkway is proposed to be situated where the Birmingham to Bristol route passes under the Oxford to Worcester (the Cotswold) line.
The Birmingham to Bristol route has a very intensive service at its northern end with stopping passenger trains serving the Birmingham conurbation interweaved with non-stop passenger trains serving destinations to Bristol, South Wales and the South West. There is also a high number of freight trains with 36 southbound scheduled trains per day, and 31 northbound scheduled trains per day, between Kings Norton and Stoke Works Junction. To the south at least two trains per hour terminate at Cheltenham Spa and have to re-platform via Alston Siding north of the station, which uses capacity and restricts flexibility in the timetable. Trains travelling to and from Bristol have to cross the main line from London to South Wales between Westerleigh Junction and Bristol Parkway, and then have to be pathed amongst trains coming from South Wales towards Bristol Temple Meads.
The Oxford to Worcester (the Cotswold) line is severely restricted by three lengthy sections of single line on the route that is also controlled by token block working on two of the sections. There is also absolute block signalling between Ascott under Wychwood and Moreton in Marsh, and Norton Junction through to Worcester Shrub Hill. This has severely restricted the ability to increase the number of trains on this route, and resulted in poor levels of punctuality. Currently there are no regular freight services timetabled on this route.
Many of the passenger trains from the Cotswold line are routed through to Great Malvern and Hereford, thus have to negotiate single line sections of route between Worcester Shrub Hill and Henwick Signal Box and Malvern Wells to Shelwick Junction. The whole of this part of the route is controlled by absolute block signalling.
HST's have replaced Class 180 units on the Cotswold line which has lead to a re-cast of the timetable in December 2007 due to the poorer acceleration and longer station dwells required by HST's, to close slam doors on the coaches.

3.3 Current Passenger Train Service Structure

The Bristol to Birmingham line has a "clockface" timetable (trains are timed to run at the same time every hour) throughout the day.
The route is most congested at the north end with London Midland operating a 10 minute even interval (Cross City) service in both directions between Birmingham New Street and Longbridge, two of which carry on to Redditch half an hour apart, diverging at Barnt Green. The four trains per hour that terminate at Longbridge have to re-platform from the Down (southbound) platform to the Up (northbound) platform thus have to be pathed in amongst the through trains in both directions. This service is operated by class 323 trains which although they are stopping frequently they benefit from quick acceleration due to being electrically powered.
There is an hourly service between Birmingham New Street and Great Malvern/Hereford that generally stops at University and Bromsgrove stations. This service increases to twice an hour during the peak hours, into Birmingham in the morning and from Birmingham in the evening. The

southbound services conflict with northbound services from Cheltenham Spa to Birmingham at Stoke Works Junction. The route between Stoke Works Junction and Droitwich Spa is mostly single line, restricting the timetabling and operation of these services. The Birmingham New Street to Great Malvern/Hereford service is operated by class 170 and class 158 units.

Cross Country operates three trains per hour south of Birmingham New Street to Cheltenham. There is an hourly Nottingham to Cardiff service, which is operated by class 170 units, which usually stops at Cheltenham Spa, Gloucester and Newport, however additional stops are added in the peak hours notably at University, Bromsgrove and Ashchurch.

There is a half hourly even interval service between Birmingham New Street and Bristol Temple Meads which stop at Cheltenham Spa and Bristol Parkway only, and is operated by Class 220/221 units, that have a top speed of 125 mph, with superior acceleration characteristics to class 158 and 170 diesel units.

First Great Western operates an alternate hourly service between Great Malvern/Worcester and Bristol/ South Coast, which stops at Ashchurch, Cheltenham Spa, Gloucester, Cam & Dursley, Yate, Bristol Parkway, Filton Abbey Wood and Bristol Temple Meads. The southbound service conflicts with northbound Cheltenham Spa to Birmingham services when crossing at Abbotswood Junction, to the south of Worcester. The service runs hourly from Gloucester. This service is operated by class 150 units.

There is an hourly service that runs between Cheltenham Spa and Swindon London Paddington, which reverse at Gloucester and diverge at Standish Junction (over 6 miles south of Gloucester). These services are operated by HST's on alternate hours as they go through to London Paddington. There is a requirement when the train arrives at Cheltenham (either from London, Swindon or the maintenance depot at Bristol) in the Up (northbound) platform, it has to draw forward into Alston Siding, north of the station, for the driver to change ends, before the train can arrive back into the Down (southbound platform). This move will conflict with trains in both directions.

Arriva Trains Wales run an hourly service from Maesteg to Cheltenham, which stops at all stations between Cardiff and Cheltenham. This service is operated by Class 142 or 150 units. When the trains arrive into Cheltenham Spa they have to re-platform via Alston Siding, similar to the London Paddington to Cheltenham Spa service.

First Great Western operate a half hourly cross Bristol service, one starting at Bristol Parkway and the other at Cardiff Central, the former stopping at all stations to Bristol Temple Meads and the latter at Filton Abbey Wood only. These services are operated by class 142 or class 150 units.

There is a half hourly service operating between London Paddington and Cardiff/Swansea, stopping at Bristol Parkway. These services are operated by HST's.

There is an hourly Portsmouth to Cardiff Central service which stops at Filton Abbey Wood, these services are operated by class 158 units.

There is also one train an hour between Bristol Temple Meads and Avonmouth/Severn Beach diverging at Stapleton Road, although these do not operate to a clockface pattern. These services are operated by class 142 units.

The Oxford to Worcester (Cotswold) line service pattern has been severely restricted by the single line sections both on and off the route and the method of signalling, which has lead to an uneven service interval in both directions. There is a rough half hourly interval of service going towards Oxford and London in the morning peak, and returning from London and Oxford in the evening peak. Most services are operated by HST's with a handful of class 165 operated services some of which stop at the smaller intermediate stations on the route.

3.4 Future Plans

Network Rail is developing a scheme to increase the line speed at various locations on the Birmingham to Bristol line between Barnt Green and Westerleigh Junction. The proposed line speeds as supplied by Network Rail (April 2008) are shown in Appendix A. The current maximum speed on the route is 100 mph which will remain, due to the number of road level crossings between Cheltenham Spa and Stoke Works Junction (south of Bromsgrove). The proposed

permanent speed restrictions have been modelled using RailSys software to establish the affect they will have on sectional running times on the route, for different types of traction/rolling stock. These are also shown in Appendix A.

Network Rail is also developing a scheme to re-double some of the single line sections of the Cotswold line, which will provide double track running between Evesham and Charlbury. There will also be additional signals added on the route to reduce the length of the block sections. The permissible speed restrictions (PSR) on the route will remain similar to the current PSR with some easing of the restrictions approaching junctions and stations on the route. The details of this scheme are drawn from the capacity and performance modelling work that Corus carried out for Network Rail in 2008.

The details of the above schemes are liable to change as they are developed. However, they give a good indication of the potential enhancements.

Corus are not aware of any plans by train operators to re-cast their timetables in the area of this study.

There is a scheme in the early stages of development to extend the London Midland Cross City service from Barnt Green to Bromsgrove. It is currently proposed to install additional Slow Lines and upgrade existing Goods Lines to passenger status between Barnt Green and Longbridge. Bromsgrove station is proposed to be re-sited about 1½ miles further to the south. Until the defined options for the infrastructure and specification for the timetable are made available it is difficult to assess the impact of this proposed scheme will have on trains stopping at Worcester Parkway.

4.0 Impact of Worcester Parkway station

This part of the study looks at the impact of Worcester Parkway on the timetable and operation of the railway. In sections 4.1 and 4.2 it assumes there are no railway infrastructure enhancement schemes implemented prior to the opening of the new station. In section 4.3 it takes into account the schemes currently being developed by Network Rail, when looking at the impact of Worcester Parkway. The timetables studied apply to the routes bounded by Bristol, Birmingham, Oxford, and Great Malvern.

4.1 Sectional Running Times

Corus constructed a RailSys infrastructure model for the routes from Bristol Parkway to Birmingham New Street, Didcot North Junction to Ledbury, and the line from Abbotswood Junction (where trains from the Bristol to Birmingham line diverge to travel towards Worcester Shrub Hill) and Stoke Works Junction (where trains from Droitwich Spa join the Bristol to Birmingham line). Worcester Parkway was then added to this model at a location where the lines between Bristol and Birmingham and Oxford and Worcester cross each other. Sectional running times were then extracted for trains stopping at Worcester Parkway, which are shown in figure 1 to 4:

SRT's (in seconds) for trains stopping at Worcester Parkway						SRT's (in seconds) for trains non-stop between Pershore and Norton Junction					
				Type of train				Type of train			
From	To	Stop/ Pass	Pass/ Stop	HST Rail Sys SRT	165 Rail Sys SRT			HST RailSys SRT	HST WTT SRT	165 Rail Sys SRT	165 WTT SRT
Pershore	Worcester Parkway	Stop	Stop	285	295	Pershore	Norton Junction	376	300	377	330
Worcester Parkway	Norton Junction	Stop	Pass	121	108						
	Station Dwell at Worcester Parkway			90	60						
Total Running time				496	463			376	300	377	330

Figure 1: Showing the comparison of sectional running times (SRT's) between trains stopping at Worcester Parkway and non-stop, travelling from Pershore towards Worcester Shrub Hill.

RailSys calculates train sectional running times (SRT's) to the second, however trains in the Working Timetable (WTT) published by Network Rail use sectional running times rounded to the nearest whole or half minute. In some cases SRT's from RailSys can differ from those shown in the WTT, highlighting deficiencies in the WTT SRT. Figure 1 shows that RailSys calculates that a HST stopping at Worcester Parkway will take a total of 496 seconds (including a 90 second station stop at Worcester Parkway) from starting from Pershore to passing Norton Junction. This compares to 376 seconds if the train runs without stopping at Worcester Parkway, therefore RailSys indicates that a stop at Worcester Parkway will add 120 seconds (2 minutes) to the journey time. The sectional running time shown in the WTT for a HST running non-stop between Pershore and Norton Junction is 300 seconds (5 minutes), which when compared to the RailSys non-stop value indicates it is insufficient to cover the actual running time. Therefore the total additional time incurred in the journey due to stopping at Worcester Parkway could be as much as 196 seconds (3 minutes 16 seconds), rounded to 3½ minutes. The journey time for a class 165 operated service from starting from Pershore to passing Norton Junction is shown as 330 seconds in the WTT, however RailSys indicates that the train will take 377 seconds. When a 60 second stop at Worcester Parkway is added the journey time calculated by RailSys is 463 seconds, thus giving an increase of 133 seconds (2 minutes 13 seconds), rounded to 2½ minutes, between the WTT and RailSys value stopping at Worcester Parkway.

SRT's (in seconds) for trains stopping at Worcester Parkway						SRT's (in seconds) for trains non-stop between Pershore and Norton Junction					
				Type of train				Type of train			
From	To	Stop/ Pass	Pass/ Stop	HST Rail Sys SRT	165 Rail Sys SRT			HST RailSys SRT	HST WTT SRT	165 Rail Sys SRT	165 WTT SRT
Norton Junction	Worcester Parkway	Pass	Stop	53	53	Norton Junction	Pershore	225	240	313	240
Worcester Parkway	Pershore	Stop	Stop	272	274						
	Station Dwell at Worcester Parkway			90	60						
Total Running time				415	387			225	240	313	240

Figure 2: Showing the comparison of sectional running times (SRT's) between trains stopping at Worcester Parkway and non-stop, travelling from Worcester Shrub Hill to Pershore.

Figure 2 shows that in the opposite direction a HST operated service will incur an additional 175 seconds (2 minutes 55 seconds), rounded to 3 minutes due to stopping at Worcester Parkway, with a class 165 operated service incurring 147 seconds (2 minutes 27 seconds), rounded to 2½ minutes.

SRT's (in seconds) for trains stopping at Worcester Parkway						SRT's (in seconds) for trains non-stop between Stoke Works Junction and Ashchurch					
				Type of train				Type of train			
From	To	Stop/ Pass	Pass/ Stop	221 Rail Sys SRT	170 Rail Sys SRT			221 Rail Sys SRT	221 WTT SRT	170 Rail Sys SRT	170 WTT SRT
Stoke Works Junction	Worcester Parkway	Pass	Stop	423	427						
Worcester Parkway	Abbotswood Junction	Stop	Pass	63	67	Stoke Works Junction	Abbotswood Junction	410	420	413	420
Abbotswood Junction	Ashchurch	Pass	Pass	421	456	Abbotswood Junction	Ashchurch	390	390	393	390
	Station Dwell at Worcester Parkway			90	60						
Total Running time				997	1010			800	810	806	810

Figure 3: Showing the comparison of sectional running times (SRT's) between trains stopping at Worcester Parkway and non-stop, travelling from Birmingham New Street towards Cheltenham Spa.

Figure 3 shows that RailSys calculates that a class 221 operated Cross Country service will incur 187 seconds (3 minutes 7 seconds) rounded to 3 minutes, and a class 170 operated service will incur 200 seconds (3 minutes 20 seconds), rounded to 3½ minutes.

SRT's (in seconds) for trains stopping at Worcester Parkway						SRT's (in seconds) for trains non-stop between Stoke Works Junction and Ashchurch					
				Type of train				Type of train			
From	To	Stop/ Pass	Pass/ Stop	221 Rail Sys SRT	170 Rail Sys SRT			221 Rail Sys SRT	221 WTT SRT	170 Rail Sys SRT	170 WTT SRT
Ashchurch	Abbotswood Junction	Pass	Pass	385	395						
Abbotswood Junction	Worcester Parkway	Pass	Stop	56	56	Ashchurch	Abbotswood Junction	385	390	395	420
Worcester Parkway	Stoke Works Junction	Stop	Pass	471	526	Abbotswood Junction	Stoke Works Junction	411	420	424	420
	Station Dwell at Worcester Parkway			90	60						
Total Running time				1002	1037			796	810	819	840

Figure 4: Showing the comparison of sectional running times (SRT's) between trains stopping at Worcester Parkway and non-stop, travelling from Cheltenham Spa towards Birmingham New Street.

Figure 4 shows that RailSys calculates that a class 221 operated service will incur 192 seconds (3 minutes 12 seconds), rounded to 3½ minutes, and a class 170 operated service will incur 197 seconds (3 minutes 17 seconds), rounded to 3½ minutes.

4.2 Timetable Impact

4.2.1 Oxford to Worcester (Cotswold) Line

Each weekday (Mondays to Fridays) train shown in the May 2008 working timetable was looked at individually to see if it was possible to accommodate an additional stop at Worcester Parkway, the impact of which is listed in Appendix B. There are 16 trains the Down (Worcester bound) direction and 15 trains in the Up (Oxford bound) direction. Of those 15 trains in the Down direction and 12 trains in the Up direction were found to be able to stop at Worcester Parkway with either no or minimal impact on the timetable. These trains are listed in figure 5 below:

Down (Worcester bound) trains				**Up (London bound) trains**			
Train ID	Depart Worcester Parkway	Origin	Destination	Train ID	Depart Worcester Parkway	Origin	Destination
2E04	06:20	Evesham	Worcester Foregate St	1P08	05:50	Great Malvern	London 07:58
1W07	08:09	London 05:43	Worcester Foregate St	1P14	06:31	Hereford	London 08:51
2W00	09:16	London 06:00	Worcester Foregate St	1P26	07:39	Abergavenny	London 09:41
1W15	10:13	London 07:51	Great Malvern	1P32	08:48	Worcester Foregate St	London 10:59
1W01	11:04	London 08:51	Hereford	1P36	09:45	Worcester Foregate St	London 11:58
1W19	12:11	London 09:51	Worcester Foregate St	1P44	11:37	Great Malvern	London 13:59
1W02	14:01	London 11:51	Hereford	1P57	14:20	Hereford	London 16:59
1W39	16:02	London 13:51	Great Malvern	1P66	16:23	Hereford	London 18:30
1W47	18:02	London 15:51	Worcester Shrub Hill	1P78	19:04	Worcester Foregate St	London 21:29
2E94	18:53	Oxford	Worcester Foregate St	1P84	21:09	Worcester Foregate St	London 23:25
1W03	19:33	London 17:22	Hereford	1P90	22:56	Great Malvern	London 01:17
1W57	20:14	London 17:52	Worcester Shrub Hill				
1W04	20:34	London 18:22	Hereford				
1W67	21:39	London 19:22	Great Malvern				
1W77	00:06	London 21:48	Worcester Shrub Hill				

Figure 5: Trains able to stop at Worcester Parkway

1W04 20:34 London Paddington to Hereford can only stop at Worcester Parkway if 1P84 20:58 Worcester Foregate Street to London Paddington starts from Worcester Shrub Hill. This is due to 1W04 being retimed later and conflicting with the schedule for the empty train set being moved

from Shrub Hill to Foregate Street to form 1P84. There were 5 services, of which 1 in the Down (London bound) direction and 4 in the Up (Oxford bound) direction were found to be unable to accommodate a stop at Worcester Parkway without creating unavoidable conflicts between trains around them. The trains are as follows:

- 1W71 20:20 London Paddington to Great Malvern. Will conflict with 1P90 22:31 Great Malvern to London Paddington on the single line between Worcester Shrub Hill and Henwick Signal Box. 1P90 cannot be retimed later into Worcester Shrub Hill without causing a conflict with 1M36 22:00 Bristol Temple Meads to Birmingham New Street.
- 2E90 06:53 Worcester Foregate Street to Oxford. 2E90 cannot depart earlier from Worcester Foregate Street a it would conflict with 2O70 06:49 Worcester Shrub Hill to Weymouth passing through the block section to Norton Junction. 2O70 cannot be retimed earlier from Shrub Hill as it would have a Rules of the Plan sub-standard turnaround after its previous working. 2E90 cannot be retimed later from Worcester Parkway as it would conflict with 1W07 05:43 London Paddington to Worcester Foregate Street at Moreton in Marsh and 2W00 06:00 London Paddington to Worcester Foregate Street at Wolvercot Junction.
- 1P49 12:39 Worcester Foregate Street to London Paddington. If this train stopped at Worcester Parkway it would cause retiming later beyond Oxford. It cannot be retimed to depart Worcester Foregate Street earlier as it currently only has 15 minutes at Worcester Foregate Street after it's previous working. Rules of the Plan does not actually have a minimum value for an HST to turnaround at Foregate Street. However, the minimum time show at Shrub Hill is 30 minutes.
- 1P72 17:06 Great Malvern to London Paddington. If this train stops at Worcester Parkway it will delay the departure of 1W47 15:51 London Paddington to Worcester Shrub Hill from Evesham. 1W47 is followed from Norton Junction by a train to Great Malvern and any retiming to 1W47 will directly impact on this.
- 2E96 19:27 Worcester Foregate Street to Oxford. If 2E96 stops at Worcester Parkway it will conflict with 1W57 17:52 London Paddington to Worcester Shrub Hill at Evesham. 1W57 cannot be retimed any later as this would then delay 1W04 18:22 London Paddington to Hereford following from Moreton in Marsh.

It might be possible to accommodate an additional stop at Worcester Parkway, if other stops are deleted on the Cotswold line, allowing the train to regain its current scheduled path. The most obvious station to delete stops is at Pershore, as this is within the same signal block section and section of single line as Worcester Parkway, however reducing stops at stations is not popular with passengers and would also have a negative impact on any business case in terms of revenue loss from other stations. The higher number in the Up direction, that cannot accommodate a stop at Worcester Parkway, is due to very little pathing time existing in the schedules between Worcester Shrub Hill and Evesham. Also many of the trains pass at Evesham between the single line sections, therefore delaying an Up (Oxford bound) train will cause a delay to a Down (Worcester bound) train.

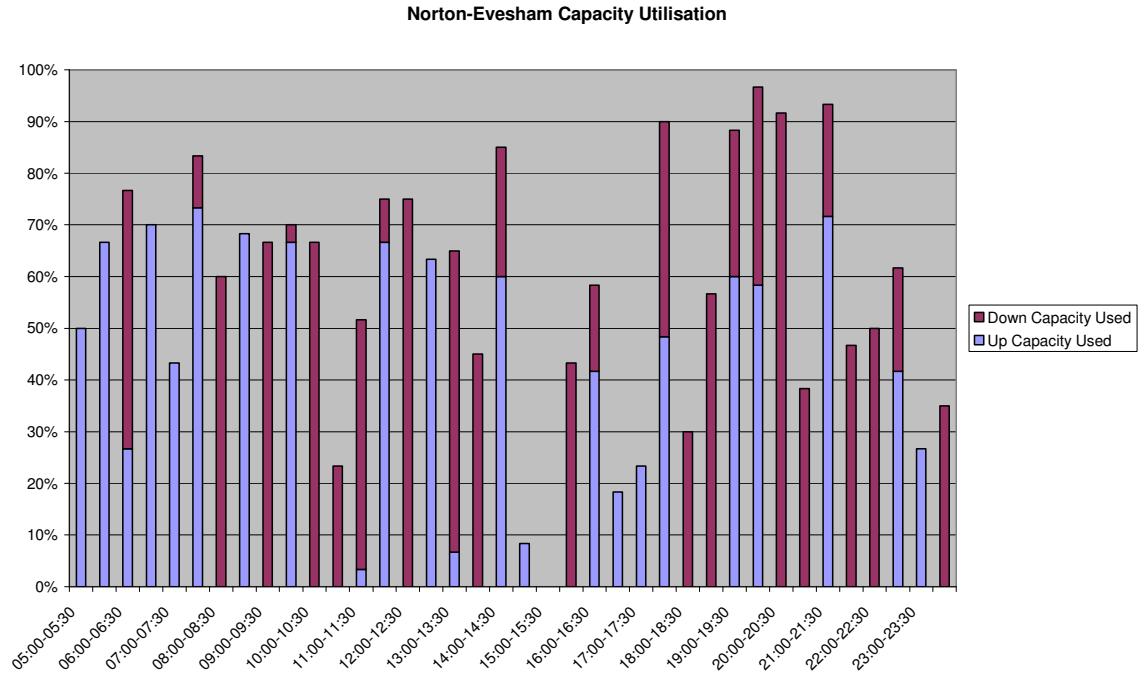


Figure 6: Bar chart showing the capacity utilisation between Norton Junction and Evesham for the current timetable

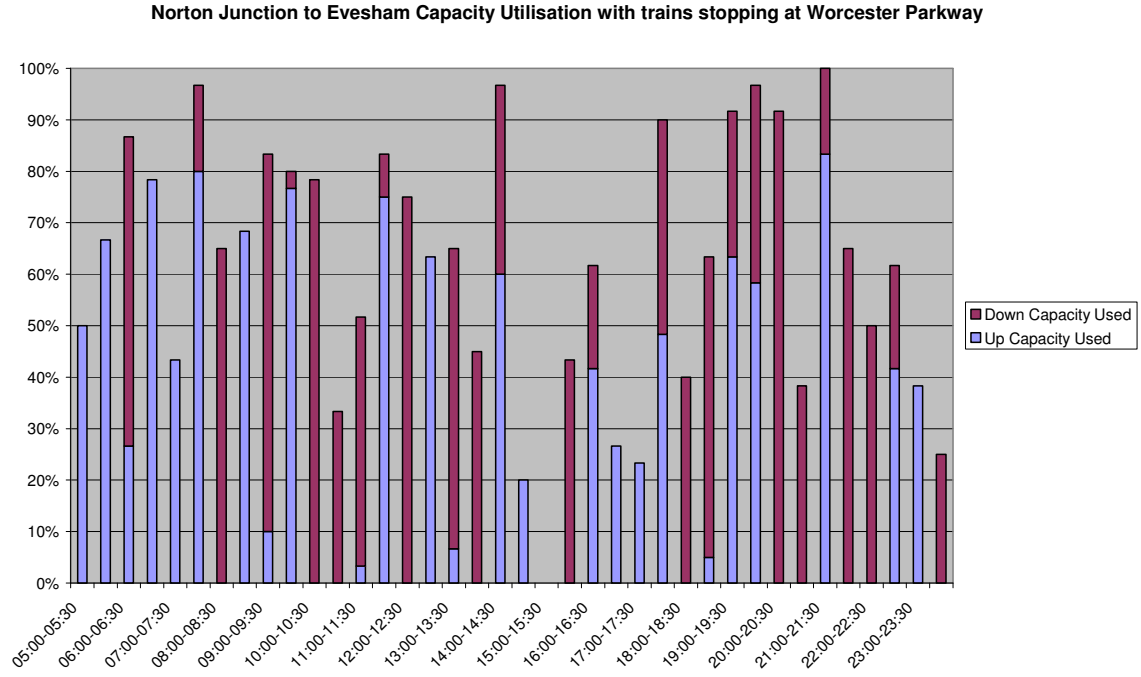


Figure 7: Bar chart showing the capacity utilisation between Norton Junction and Evesham with stops added into the trains at Worcester Parkway as detailed in Appendix B.

Figure 6 shows that there are 10 half hours when the capacity utilisation is over the 70% level that is considered to be the maximum acceptable. The reality of this is that there is very little spare time left in the timetable for recovery from perturbed running, thus leading to reduced punctuality.
Figure 7 shows that with trains stopping additionally at Worcester Parkway the capacity utilisation would increase with 14 half hours having capacity utilisation in excess of 70%, of which 6 are in excess of 90%. This increase in capacity utilisation will not be necessarily rejected by Network Rail timetable planners; although it is likely to have a negative impact on train punctuality as it reduces the ability to recover from perturbations.

There are several solutions to create additional capacity, the most obvious one being to double track the whole section of route between Evesham and Norton Junction, which would completely remove the conflict between trains in opposite directions, and effectively double the capacity on this section. Installing additional signals at Pershore thus creating an additional block section between Evesham and Norton Junction would also double the available capacity where there are two trains following each other. The capacity could also be increased by extending the loop at Evesham at least several miles west towards Pershore. This would also require additional signalling to allow the Down train to depart from Evesham before the Up train had arrived.
Single line sections between Worcester Shrub Hill and Henwick Signal Box and between Malvern Wells and Ledbury also restrict the flexibility to retime trains to accommodate the extra stop at Worcester Parkway.
Some of the trains have reduced turnrounds at Worcester Shrub Hill and Worcester Foregate Street which might not be acceptable to the train operating company from a performance and train crew aspect. There is no minimum time allowance currently shown in Rules of the Plan for the planned turnaround of an HST at Worcester Foregate Street, in the working timetable. The minimum time allowed at Worcester Shrub Hill between the planned arrival and planned departure back to London Paddington is 30 minutes, and at Great Malvern it is 20 minutes. It is likely that the value for Worcester Foregate Street should be no less than the latter. It is possible to reverse an HST in 7 minutes; however this should not be used for a planned turnaround in between services as it does not contain any allowance for late running by the terminating service. For example if the time between a train arriving from London/Oxford and it departing back to Oxford/London is insufficient, then if it arrives late it is more likely that it will depart late. First Great Western have been under considerable pressure recently to improve the punctuality and reliability of their services. The punctuality of the Cotswold line is particularly poor, due to the single line sections and restrictive signalling so rail operators are likely to be resistant to any suggestion that removes performance allowances from the train schedules.

4.2.2 Birmingham New Street to Bristol Temple Meads

As outlined in section 3.3 there are three Cross Country services per hour in either direction between Birmingham New Street and Cheltenham Spa, on a “clockface” pattern. Trains from Birmingham New Street to Bristol Parkway depart at 10 and 40 minutes past the hour, and the service to Cardiff via Gloucester departs New Street at 30 minutes past the hour.
All trains departing Birmingham New Street at 30 minutes past the hour for Cardiff Central can accommodate a stop at Worcester Parkway, without impact on other timetabled services. These services would operate 3½ minutes later from Worcester Parkway, with most regaining their scheduled path at Severn Tunnel Junction, by using up pathing time existing in the WTT. Some will need retiming through to approaching Cardiff Central; however all arrive Cardiff as they do currently, thus the relatively short turnround before their return journey is not reduced.
The trains departing Birmingham New Street at 10 minutes past the hour for Bristol Parkway can also stop at Worcester Parkway without impact on other trains, with the exception of the train departing New Street at 19:10, which conflicts with the 20:00 Cheltenham Spa to Swindon which if it was retimed later to follow would then conflict with a London Paddington to Cheltenham Spa service on the single line between Swindon and Kemble. This problem could be removed if the line is re-doubled. Most of the Cross Country services departing Birmingham New Street at 10 minutes past the hour and stopping at Worcester Parkway will need minor retiming through to Bristol Temple Meads.

Trains departing Birmingham New Street at 40 minutes past the hour cannot stop at Worcester Parkway without conflicting with other services. Currently on alternate hours they are followed, 2½ minutes later, by the First Great Western Great Malvern/Worcester to Bristol/South Coast train from Abbotswood Junction, which stops at Ashchurch for Tewkesbury. The stop at Worcester Parkway would actually put the Cross Country service behind the stopper, causing a major increase to the Cross Country’s journey time following the stopping service to Barnwood Junction (just north of Gloucester). The stopper cannot be retimed later as it is followed from Cheltenham

Spa by the 38 minutes past the hour departure to Swindon which reverses at Gloucester, and is timed to connect with a London Paddington service at Swindon.
The first and last trains to be able to stop at Worcester Parkway are shown in figure 8 below.

First trains of day				
Train ID	Departure time from Worcester Parkway	Origin	Birmingham New Street depart	Destination
1V05	07:39	Derby	07:10	Plymouth
1V01	08:02	Derby	07:30	Cardiff Central
1V21	08:39	Derby	08:10	Plymouth
1V08	08:59	Nottingham	08:30	Cardiff Central
Last trains of the day				
1V58	19:59	Nottingham	19:30	Cardiff Central
9V73	20:09	Edinburgh	19:40	Bristol Temple Meads
1V74	20:39¶	Manchester	20:10	Plymouth
9V76	21:39$	Edinburgh	21:10	Bristol Temple Meads
9V79	22:39*	Edinburgh	22:10	Bristol Temple Meads
Notes: ¶ Will require 2T38 21:00 Cheltenham Spa to Bristol Temple Meads to be retimed 4 minutes later from Cheltenham Spa, although it should be able to arrive Bristol Temple Meads at the same time as currently due to pathing time in its schedule. $ Will require 2B98 22:00 Cheltenham Spa to Swindon to be retimed 4 minutes later to follow from Cheltenham Spa * Will require 2B99 22:32 Worcester Shrub Hill to Gloucester to be retimed 4 minutes later to follow from Abbotswood Junction				

Figure 8: Table showing the first and last trains of the day that can stop at Worcester Parkway

For the trains that stop at Worcester Parkway a journey time of roughly 12 minutes to Cheltenham Spa, 50 minutes to Bristol Parkway, and 1 hour 5 minutes to Bristol Temple Meads would be achievable.

In the opposite direction Cross Country trains depart Bristol Temple Meads on the hour and 30 minutes past the hour to Birmingham New Street. These services are currently timed to be followed from Barnt Green, 3 minutes later, by the half hourly London Midland Redditch to Four Oaks service. A stop at Worcester Parkway would place them at Barnt Green at the same time. The Cross Country trains could not follow the London Midland service without incurring a large time penalty (10 minutes later than current timetable) which would destroy the path they have through Birmingham New Street. The London Midland service cannot be retimed to follow the later running Cross Country service as the former forms part of the 10 minute interval service from Longbridge to Four Oaks through New Street. A potential solution could be to switch the London Midland Redditch service around the clockface 10 minutes later, swapping paths with one of the Longbridge starters and terminators, thus maintaining the 10 minute interval service from Longbridge and avoiding a conflict at Barnt Green. This will have implications for London Midland in terms of train crew and rolling stock resources and would need to be investigated with the train operating company further. There is a scheme being currently developed by Network Rail that will extend the London Midland service to Bromsgrove, with a 20 minute frequency, and increase the service to Redditch to a 20 minute frequency. This will obviously have a major impact on capacity between Bromsgrove and Barnt Green with the increase in the number of trains. Slow lines are to be re-instated and Goods Lines upgraded to passenger status between Barnt Green and Longbridge to alleviate capacity issues on this stretch although there will be an increase of 1 train per hour crossing the junction at Barnt Green in the Birmingham bound direction. Shunt moves between the platforms at Longbridge will be removed. The precise details of this scheme are not

available at the time of this study, therefore the implications of Worcester Parkway station will need to be reviewed when the infrastructure option and timetable specification is made available. Trains departing Bristol Temple Meads at 07:30, 09:30, 11:30, 13:30, 15:30, 17:30, are routed to use the Camp Hill route from Kings Norton in to New Street. If these trains stopped at Worcester Parkway the additional time incurred in their schedule would place them in direct conflict with London Midland services travelling in the opposite direction at Kings Norton. The London Midland services cannot be retimed without deviating from the 10 minute interval service pattern from Four Oaks to Longbridge. It is possible for the Cross Country services to be routed by the more normal route into Birmingham via Selly Oak, although this might introduce platforming difficulties at New Street entering the station at the west end.

Most of the Cardiff to Nottingham Cross Country service can stop at Worcester Parkway, although they subsequently conflict with Birmingham New Street to Great Malvern/Hereford services crossing at Stoke Works Junction. With some retiming to the latter services as far as Worcester and Hereford, and also other services in the Worcester area it should be possible to accommodate the stop at Worcester Parkway. The Cardiff to Nottingham services that are able to stop at Worcester Parkway are listed in figure 9 below.

Train ID	Origin/Time	Cheltenham Spa depart	Worcester Parkway depart	University arrive	Birmingham New Street arrive	Destination
1M53	07:09 Gloucester	07:19	07:38	08:09	08:16	Nottingham
1M46	08:45 Cardiff	09:57	10:15		10:45	Nottingham
1M60	09:45 Cardiff	10:57	11:15		11:45	Nottingham
1M83	10:45 Cardiff	11:57	12:15		12:45	Nottingham
1M64	11:45 Cardiff	12:57	13:15		13:45	Nottingham
1M66	12:45 Cardiff	13:57	14:15		14:45	Nottingham
1M68	13:45 Cardiff	14:57	15:15		15:45	Nottingham
1M71	14:45 Cardiff	15:57	16:15		16:45	Nottingham
1M73	15:45 Cardiff	16:57	17:15		17:45	Nottingham
1M75	16:45 Cardiff	17:57	18:15		18:45	Nottingham
1M77	17:45 Cardiff	18:57	19:15		19:45	Nottingham

Figure 9: Trains that are able to stop at Worcester Parkway in the northbound direction

There are a few services in this service group that do not have sufficient recovery time in their schedule to allow a stop at Worcester Parkway, without conflicting with other train paths in the timetable. The 1M00 07:46 Gloucester to Nottingham (07:57 depart Cheltenham Spa) and 1M56 07:45 Cardiff to Nottingham (08:57 depart Cheltenham Spa) stop at both Ashchurch and Bromsgrove and run slightly later to Birmingham without pathing time. Conflictions are also caused at Stoke Works Junction between these trains and trains crossing to go towards Worcester Foregate Street. If the Bromsgrove stop was deleted from 1M00 it would be possible for this train to stop at Worcester Parkway and regain its current schedule by Barnt Green. This would give a departure from Worcester Parkway at 08:15, University arrive 08:39, Birmingham New

Street arrive 08:46. 1M56 could also regain its path at Barnt Green, by having the stop at Bromsgrove deleted. However, the consequent retiming to trains in the Worcester Foregate Street area will affect trains through Birmingham Snow Hill and beyond. This is might not be acceptable to London Midland. 1M79 18:47 Cardiff to Birmingham New Street (departs Cheltenham 19:58½) and 1M98 20:00 Cardiff to Nottingham (departs Cheltenham 21:09) with an additional stop at Worcester Parkway would conflict with London Midland services between Kings Norton and New Street. The later retiming caused by the additional stop will cause trains to be retimed beyond Birmingham New Street.

If there were no direct service from Bristol to Worcester Parkway it would be necessary for passengers to change trains at Newport to make the journey between the two stations, giving a likely journey time of 2 hours 15 minutes. This is obviously less attractive than the current two hourly direct services from Bristol to Worcester Shrub Hill which takes 1 hour 30 minutes.

4.3 Timetable Impact with Proposed Enhancements

4.3.1 Oxford to Worcester (Cotswold) Line

The scheme that is currently being developed by Network Rail to enhance the Cotswold line will provide a double track section from Charlbury through to one mile west of Evesham. It will also incorporate additional signals at Charlbury and Honeybourne to provide shorter block sections when trains are following each other. The Token Block working between Evesham and Norton Junction will be replaced by Tokenless Block working. Trains will therefore not need to have additional station dwell at Evesham to collect the token and also will not need to, either stop at Norton Junction to collect or relinquish it, or need arrivals and departures at Worcester Shrub Hill to take place in parallel as no token will need to be exchanged here. This extra flexibility and capacity that is being provided on the Cotswold line is likely to lead to a re-cast of the timetable on to a clockface timetable with possible additional services to eradicate the gaps in the timetable interval that currently exist. The comments in this report are based on the current timetable continuing on the new infrastructure, however these will need to be reviewed with any re-cast of the timetable.
The main effect of the new infrastructure on the ability of trains to stop at Worcester Parkway is that trains will be able to arrive and depart simultaneously at Evesham, with the station dwell there being reduced slightly. This enhancement allows a further two trains per day to stop at Worcester Parkway, additional to those listed in figure 5. These two trains are listed below:

- 1P72 17:06 Great Malvern to London Paddington
- 2E96 19:27 Worcester Foregate Street to Oxford

There are three trains that still cannot stop at Worcester Parkway without having a serious impact on the schedules of the trains around them. They are as follows:

- 1W71 20:20 London Paddington to Great Malvern. Will conflict with 1P90 22:31 Great Malvern to London Paddington on the single line between Worcester Shrub Hill and Henwick Signal Box. 1P90 cannot be retimed later into Worcester Shrub Hill without causing a conflict with 1M36 22:00 Bristol Temple Meads to Birmingham New Street.
- 2E90 06:53 Worcester Foregate Street to Oxford. 2E90 cannot depart earlier from Worcester Foregate Street a it would conflict with 2O70 06:49 Worcester Shrub Hill to Weymouth passing through the block section to Norton Junction. 2O70 cannot be retimed earlier from Shrub Hill as it would have a Rules of the Plan sub-standard turnaround after its previous working. 2E90 cannot be retimed later from Worcester Parkway as it would conflict with 1W07 05:43 London Paddington to Worcester Foregate Street at Moreton in Marsh and 2W00 06:00 London Paddington to Worcester Foregate Street at Wolvercot Junction.

- 1P49 12:39 Worcester Foregate Street to London Paddington. If this train stopped at Worcester Parkway it would cause retiming later beyond Oxford. It cannot be retimed to depart Worcester Foregate Street earlier as it currently only has 15 minutes at Worcester Foregate Street after it's previous working. Rules of the Plan does not actually have a minimum value for an HST to turnaround at Foregate Street. However, the minimum time show at Shrub Hill is 30 minutes.

The current linespeed between Norton Junction and Evesham is 95 mph (153 kmh) and there are no linespeed enhancements proposed under the Cotswold line scheme. Figures 10 and 11 show that HST's are not able to achieve the current permissible speed in either direction, for any duration, before braking for station stops.

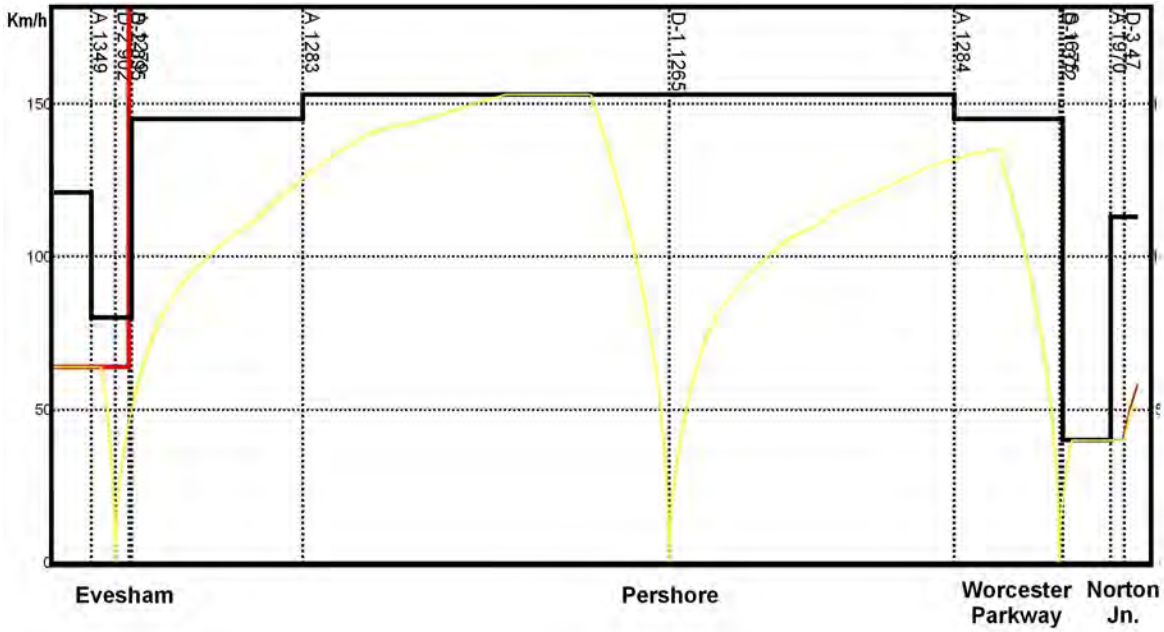


Figure 10: Speed profile for a Down (Worcester bound) HST stopping at Evesham, Pershore and Worcester Parkway. The speed of the train is shown by the yellow line. The permissible speed on the line is shown by the thick solid black line. Speed is shown in km/h. The distance where the HST achieves the permissible speed is about 1 km (0.6 miles)

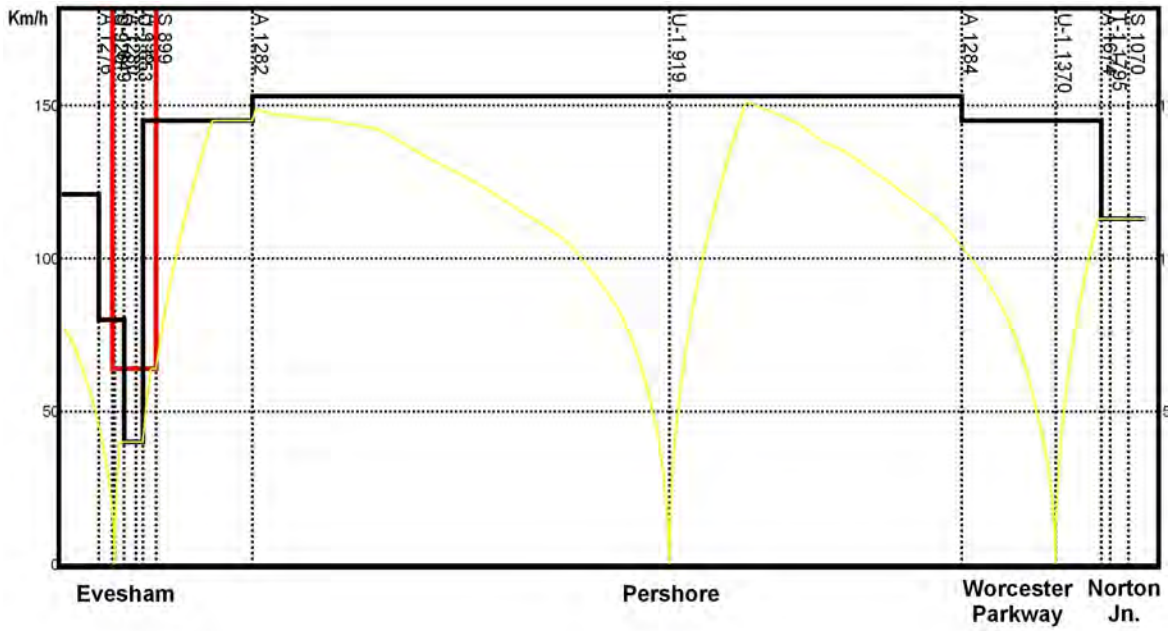


Figure 11: Speed profile for an Up (Oxford bound) HST stopping at Worcester Parkway, Pershore, and Evesham. The speed of the train is shown by the yellow line. The permissible speed on the line is shown by the thick solid black line. Speed is shown in km/h.

The permissible speed for a Down train passing over Norton Junction is 25 mph, if this was raised to 50 mph it could have the potential to reduce the journey time by 1 minute for HST operated services, stopping at Worcester Parkway to Worcester Shrub Hill. The current speed restriction inhibits the acceleration away from Worcester Parkway, however this minute saving alone would not alter the number of trains stopping at Worcester Parkway or significantly alter the impact on the timetable. Passive provision is being made by Network Rail in the signalling design for 100 mph permissible speed between Moreton-in-Marsh and Evesham (with the exception of a curve at Aston Magna where the current 70 mph must remain), under the Cotswold Line enhancement scheme. If this passive provision was actually implemented it would reduce the journey time between Moreton-in-Marsh and Evesham by about 1 minute for a Down direction train and ½ minute for an Up direction train. This reduction in journey time on this section of the route would not affect the line capacity on the section of route between Evesham and Norton Junction (shown in figures 6 and 7) however it would add a little flexibility and robustness in to the timetable.

4.3.2 Birmingham to Bristol

The permissible linespeed enhancements being developed by Network Rail for the Birmingham to Bristol line are shown in Appendix A together with the sectional running times calculated by RailSys, which will be achievable if the scheme is implemented. In the Down (southbound) direction RailSys calculates that the proposed linespeed enhancement will deliver a potential 1½ minute reduction in journey time between Birmingham and Bristol, and a 2½ minute reduction in the Up (northbound) direction. Most of the improvements in line speed and consequent reductions in sectional running times are concentrated south of Cheltenham Spa, with perhaps only ½ minute of the journey reduction in either direction being attributable to speed improvements north of Cheltenham Spa. As highlighted in section 4.2.2, if a stop at Worcester Parkway is added to the Cross Country services that depart Birmingham New Street at 40 minutes past the hour, it will still conflict at Abbotswood Junction and Cheltenham Spa with other trains, despite the linespeed improvements.
Services travelling from Bristol in the Up (northbound) direction should, in theory, be able to arrive at Cheltenham Spa 2 minutes earlier due to the linespeed improvements. However, in reality, they would need to have 2 minutes additional pathing allowance approaching Cheltenham Spa in most

instances, as they follow terminating services to Cheltenham Spa. Therefore with very little journey time improvement north of Cheltenham Spa the conflict, highlighted in section 4.2.2, where Cross Country services from Bristol that stop at Worcester Parkway conflict with London Midland services from Redditch, at Barnt Green still exists.

The Cardiff to Nottingham Cross Country services are likely to see improvements in sectional running times of ½ minute in the Down (southbound) direction and 1 minute in the Up (northbound) direction, between Birmingham and Cheltenham Spa. Most of these services would be able to stop at Worcester Parkway with some retiming necessary to other trains, as detailed in section 4.2.2 to avoid conflictions at Stoke Works Junction. There were also a few northbound services that conflict with London Midland services approaching Birmingham, and this will still be the case despite the linespeed enhancements.

5.0 Conclusions

An additional stop at Worcester Parkway is likely to add 3 to 3½ minutes to the journey time of a current non-stop train.

There are 16 trains in both directions on the Cotswold line Mondays to Fridays in the current timetable, of which 15 will be able to stop in the Down (Worcester bound) direction and 12 in the Up (Oxford bound) direction, without significant impact on the timetable.

The Cotswold Line infrastructure enhancement scheme being developed by Network Rail should allow 2 further trains to stop at Worcester Parkway in the Up direction. These are highlighted in red in the table below. The enhancement scheme will still leave a single track route between Evesham and Norton Junction, so the problems and restrictions of single line operation will remain.

The trains able to stop at Worcester Parkway are listed in the table below:

Down (Worcester bound) trains				**Up (London bound) trains**			
Train ID	Depart Worcester Parkway	Origin	Destination	Train ID	Depart Worcester Parkway	Origin	Destination
2E04	06:20	Evesham	Worcester Foregate St	1P08	05:50	Great Malvern	London 07:58
1W07	08:09	London 05:43	Worcester Foregate St	1P14	06:31	Hereford	London 08:51
2W00	09:16	London 06:00	Worcester Foregate St	1P26	07:39	Abergavenny	London 09:41
1W15	10:13	London 07:51	Great Malvern	1P32	08:48	Worcester Foregate St	London 10:59
1W01	11:04	London 08:51	Hereford	1P36	09:45	Worcester Foregate St	London 11:58
1W19	12:11	London 09:51	Worcester Foregate St	1P44	11:37	Great Malvern	London 13:59
1W02	14:01	London 11:51	Hereford	1P57	14:20	Hereford	London 16:59
1W39	16:02	London 13:51	Great Malvern	1P66	16:23	Hereford	London 18:30
1W47	18:02	London 15:51	Worcester Shrub Hill	1P72	17:31	Great Malvern	London 19:59
2E94	18:53	Oxford	Worcester Foregate St	1P78	19:04	Worcester Foregate St	London 21:29
1W03	19:33	London 17:22	Hereford	2E96	19:42	Worcester Foregate St	Oxford 21:22
1W57	20:14	London 17:52	Worcester Shrub Hill	1P84	21:09	Worcester Foregate St	London 23:25
1W04	20:34	London 18:22	Hereford	1P90	22:56	Great Malvern	London 01:17
1W67	21:39	London 19:22	Great Malvern				
1W77	00:06	London 21:48	Worcester Shrub Hill				

A useful service can be provided from Worcester Parkway towards London in the morning peak with arrivals in London at 07:58, 08:51, and 09:41 possible. Returning from London in the evening peak to Worcester Parkway departures from London at 15:51, 17:22, 17:52, 18:22, and 19:22 would also be possible.

The three trains that cannot stop at Worcester Parkway without causing serious conflicts with other trains are as follows:

- 1W71 20:20 London Paddington to Great Malvern.
- 2E90 06:53 Worcester Foregate Street to Oxford.
- 1P49 12:39 Worcester Foregate Street to London Paddington.

Linespeed enhancements on the section of line between Evesham and Norton Junction would have a negligible impact as a HST is only able to achieve the current permissible speed for a very short distance before having to decelerate for the next station.

In the current timetable the capacity utilisation between Evesham and Norton Junction averages just over 56%, however there are 10 half hours of the day when the capacity utilisation is over 70%. With trains stopping at Worcester Parkway this increases to 14 half hours of the day. This capacity utilisation can only be reduced by reducing the length of single line on this section of the route and installing an additional block section to allow trains to follow each other closer together. It is not thought that the increase in capacity utilisation attributable to trains stopping at Worcester Parkway would cause the timetable to be rejected by Network Rail Train planning.

There are significant restrictions on timetabling and operation of trains in the Worcester area with absolute block signalling, and single line sections between Worcester Shrub Hill and Henwick Signal Box, and Malvern Wells and Shelwick Junction.

Nottingham to Cardiff services can stop at Worcester Parkway without impacting on other services. Retiming of these services will be necessary through to as far as approaching Cardiff Central.

Cardiff to Nottingham services can mostly stop at Worcester Parkway with some retiming to other services on the Worcester to Hereford route. However, there are a few services at the start and end of the day that cannot stop at Worcester Parkway due to making additional stops at Ashchurch and Bromsgrove, and thus would conflict with London Midland services approaching Birmingham New Street.

The Birmingham to Bristol Cross Country services that depart Birmingham New Street at 10 minutes past the hour can stop at Worcester Parkway, with some being retimed through to Bristol Temple Meads. The train that departs Birmingham New Street at 19:10 conflicts with a First Great Western (FGW) service at Cheltenham Spa, and thus will not be able to stop at Worcester Parkway.

The Birmingham to Bristol Cross Country service that departs Birmingham New Street at 40 minutes past the hour cannot stop at Worcester Parkway without conflicting with the Great Malvern/Worcester – Bristol/Warminster service, and the Cheltenham Spa – London Paddington service. The linespeed enhancements proposed by Network Rail for the Birmingham to Bristol line will not remove these conflicts because most of the improvements are taking place to the south of Cheltenham Spa.

The Bristol to Birmingham Cross Country services will conflict with the London Midland Redditch – Four Oaks service at Barnt Green, if the Cross Country services stop at Worcester Parkway. This situation will continue until any changes are made to the timetable associated with the proposed

extension of London Midland Cross City services to Bromsgrove and increase in frequency of services to Redditch. The impact of trains stopping at Worcester Parkway will need to be reviewed when an infrastructure option is chosen and a timetable specification is made available.

The first and last trains able to stop at Worcester Parkway in the Down (southbound) direction are shown in the following table:

First trains of day				
Train ID	Departure time from Worcester Parkway	Origin	Birmingham New Street depart	Destination
1V05	07:39	Derby	07:10	Plymouth
1V01	08:02	Derby	07:30	Cardiff Central
1V21	08:39	Derby	08:10	Plymouth
1V08	08:59	Nottingham	08:30	Cardiff Central
Last trains of the day				
1V58	19:59	Nottingham	19:30	Cardiff Central
9V73	20:09	Edinburgh	19:40	Bristol Temple Meads
1V74	20:39¶	Manchester	20:10	Plymouth
9V76	21:39$	Edinburgh	21:10	Bristol Temple Meads
9V79	22:39*	Edinburgh	22:10	Bristol Temple Meads
Notes: ¶ Will require 2T38 21:00 Cheltenham Spa to Bristol Temple Meads to be retimed 4 minutes later from Cheltenham Spa, although it should be able to arrive Bristol Temple Meads at the same time as currently due to pathing time in its schedule. $ Will require 2B98 22:00 Cheltenham Spa to Swindon to be retimed 4 minutes later to follow from Cheltenham Spa * Will require 2B99 22:32 Worcester Shrub Hill to Gloucester to be retimed 4 minutes later to follow from Abbotswood Junction				

For the trains that stop at Worcester Parkway a journey time of roughly 12 minutes to Cheltenham Spa, 50 minutes to Bristol Parkway, and 1 hour 5 minutes to Bristol Temple Meads would be achievable.

Trains that are able to stop in the Up (northbound) direction are shown in the following table:

Train ID	Origin/Time	Cheltenham Spa depart	Worcester Parkway depart	University arrive	Birmingham New Street arrive	Destination
1M53	07:09 Gloucester	07:19	07:38	08:09	08:16	Nottingham
1M46	08:45 Cardiff	09:57	10:15		10:45	Nottingham
1M60	09:45 Cardiff	10:57	11:15		11:45	Nottingham
1M83	10:45 Cardiff	11:57	12:15		12:45	Nottingham
1M64	11:45 Cardiff	12:57	13:15		13:45	Nottingham
1M66	12:45 Cardiff	13:57	14:15		14:45	Nottingham
1M68	13:45 Cardiff	14:57	15:15		15:45	Nottingham
1M71	14:45 Cardiff	15:57	16:15		16:45	Nottingham
1M73	15:45 Cardiff	16:57	17:15		17:45	Nottingham
1M75	16:45 Cardiff	17:57	18:15		18:45	Nottingham
1M77	17:45 Cardiff	18:57	19:15		19:45	Nottingham

If the conflicts at Barnt Green between the Bristol to Birmingham service and the Redditch to Four Oaks services cannot be resolved, then passengers travelling between Bristol and Worcester Parkway would have to change trains at Newport, with a journey time of about 2 hours 15 minutes.

6.0 Recommendations

This study has been based on the May 2008 timetable with the railway infrastructure that is operational currently. The conclusions and observations regarding the impact of opening Worcester Parkway station will be valid until either the infrastructure alters on the Oxford to Worcester route and the Birmingham to Bristol route, or the timetable structure alters on these routes.

The Cross City line extension to Bromsgrove should be considered when a final option for the infrastructure enhancement is identified between Longbridge and Bromsgrove and a timetable specification is published, so that the impact of Worcester Parkway can be assessed against this new service pattern.

Additional services could stop at Worcester Parkway if additional infrastructure was provided to ease pinchpoints elsewhere on the network. The single line between Evesham and Norton Junction and between Worcester Shrub Hill and Henwick Signal Box reduce the flexibility of the timetable on the Cotswold line, together with the absolute block signalling that controls train movement in this area. The flexibility in the timetable to accept additional journey time caused by stopping at Worcester Parkway on the Birmingham to Bristol route could be enhanced if infrastructure was provided to remove the need to terminate trains in through platforms at Cheltenham Spa. This would in turn allow the full benefits of the proposed Network Rail linespeed enhancement scheme to be exploited.

This study should be circulated to Network Rail for consideration with other schemes that affect the Cotswold line and Birmingham to Bristol line. The train operators First Great Western, Arriva Cross Country and London Midland should also receive a copy as they will need to be consulted about the proposed additional stop at Worcester Parkway, any affect on the timing of other train services, and any impact it might have on their aspirations to amend their train services in the area of this study. Other local authorities may also require a copy of the study as the proposal for Worcester Parkway may affect their aspirations for additional stations and services for example Gloucester Parkway, Chipping Camden, and Bromsgrove station new situation.

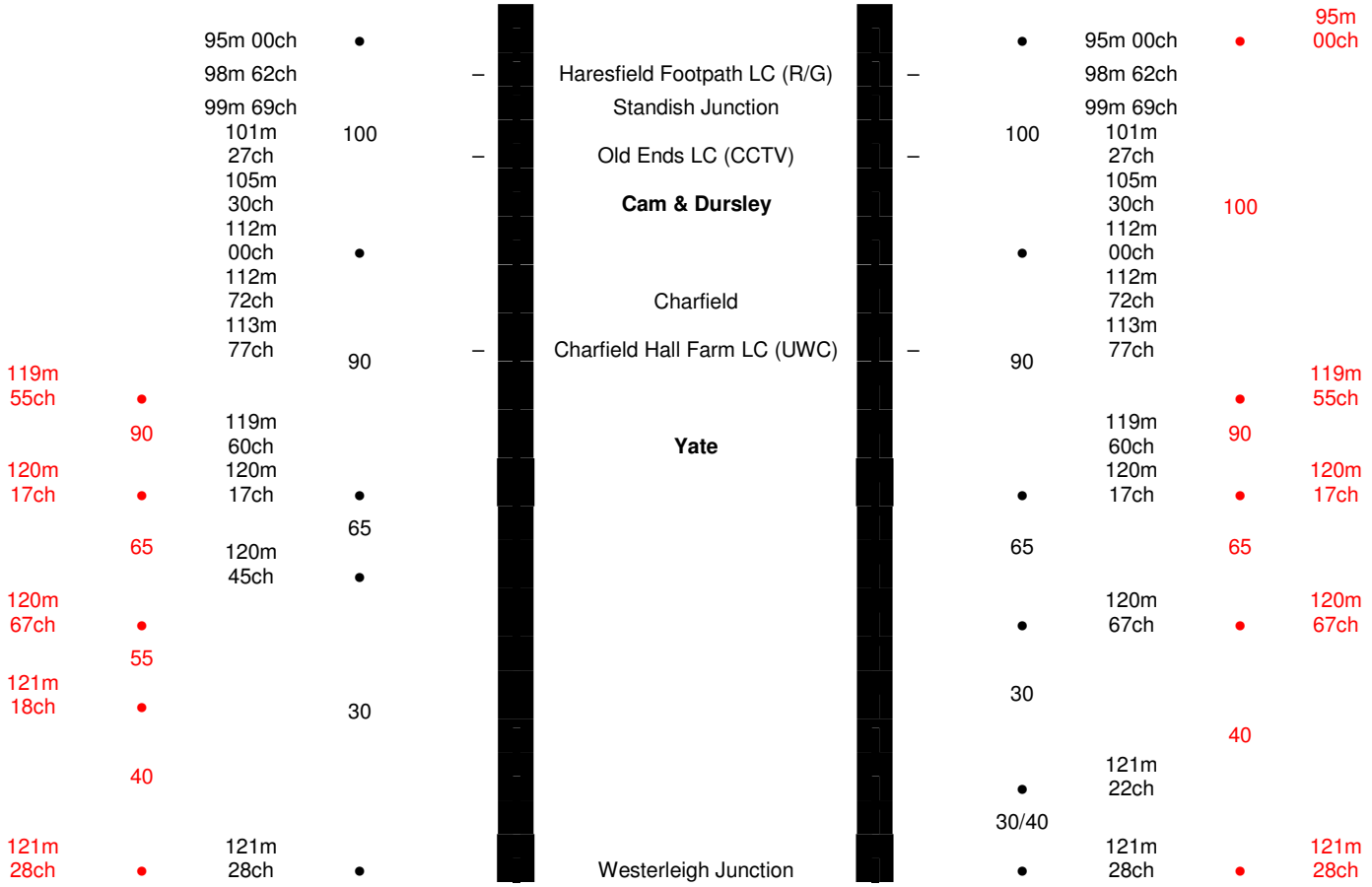
Appendix A

Birmingham to Bristol Proposed Line Speed Improvements

WESTERLEIGH JUNCTION TO BARNT GREEN LINESPEEDS - as per Sectional Appendix

NOT TO SCALE

UP (Proposed)		UP					DOWN		DOWN (Proposed)	
Mileage	Speed	Mileage	Speed				Speed	Mileage	Speed	Mileage
										52m 40ch
52m 40ch	•	52m 40ch	•		Territory Boundary		•	52m 40ch	•	
			90				90			
		53m 00ch	•		Blackwell		•	53m 00ch		
	90		75				75		90	
		53m 40ch	•				•	53m 40ch		
		55m 30ch	80		**Bromsgrove**		80	55m 30ch		
		56m 00ch	•				•	56m 00ch		
										56m 20ch
56m 20ch	•								•	
		57m 43ch	90		Stoke Works Junction		90	57m 43ch		
		57m 71ch		–	Boat LC (UWC)	–		57m 71ch		
		58m 00ch	•				•	58m 00ch		
		62m 12ch		–	Dunhampstead LC (AHBC)	–		62m 12ch		
	100	62m 60ch	100	–	Oddingley LC (MCG)	–	100	62m 60ch	100	
		63m 54ch		–	Evelench LC (UWC)	–		63m 54ch		
		68m 45ch	•				•	68m 45ch		
		68m 60ch	90		Abbotswood Junction		90	68m 60ch		
										69m 10ch
69m 10ch	•	69m 10ch	•				•	69m 10ch	•	
		70m 03ch		–	Wadborough LC (AHBC)	–		70m 03ch		
		70m 51ch		–	Pirton LC (AHBC)	–		70m 51ch		
		74m 71ch		–	Andrews LC (UWC)	–		74m 71ch		
		75m 03ch		–	Cooks 1 LC (UWC)	–		75m 03ch		
		75m 23ch		–	Cooks 2 LC (UWC)	–		75m 23ch		
		75m 32ch		–	White's Farm LC (UWC)	–		75m 32ch		
	100	78m 76ch	100	–	Northway LC (AHBC)	–	100	78m 76ch	100	
		79m 36ch			**Ashchurch**			79m 36ch		
		80m 08ch		–	Homedown LC (UWC)	–		80m 08ch		
		81m 44ch		–	Tredington LC (AHBC)	–		81m 44ch		
		84m 03ch		–	Burdetts Farm LC (UWC)	–		84m 03ch		
		84m 23ch		–	Swindon Road LC (CCTV)	–		84m 23ch		
		85m 03ch		–	Morris Hill LC (CCTV)	–		85m 03ch		
										85m 20ch
85m 20ch	•	85m 20ch	•				•	85m 20ch	•	
	95	86m 21ch	75	–	Cheltenham Alstone LC (MCB)	–	95	86m 21ch	95	
										86m 45ch
86m 45ch	•	86m 45ch	•				•	86m 45ch	•	
	40	86m 58ch	40		**Cheltenham Spa**		40	86m 58ch	40	
										87m 06ch
87m 06ch	•	87m 06ch	•				•	87m 06ch	•	
	100	92m 21ch	95		Gloucester Barnwood Junction		95	92m 21ch		
		93m 08ch			Gloucester Yard Junction			93m 08ch		
									100	
		93m 11ch	•				•	93m 11ch		
			90				90			
										94m 01ch
		94m 01ch	•				•	94m 01ch	•	
			70				70		85	


95m 00ch
98m 62ch
99m 69ch
101m 27ch
105m 30ch
112m 00ch
112m 72ch
113m 77ch
119m 55ch
119m 60ch
120m 17ch
120m 45ch
120m 67ch
121m 18ch
121m 28ch
Haresfield Footpath LC (R/G)
Standish Junction
Old Ends LC (CCTV)
Cam & Dursley
Charfield
Charfield Hall Farm LC (UWC)
Yate
Westerleigh Junction
100
90
65
30
40
30/40
95m 00ch
98m 62ch
99m 69ch
101m 27ch
105m 30ch
112m 00ch
112m 72ch
113m 77ch
119m 55ch
119m 60ch
120m 17ch
120m 22ch
120m 67ch
121m 28ch

Comparison of Sectional Running Times between Current Railway Infrastructure and Enhanced Line Speeds Proposed by Network Rail for the Birmingham to Bristol route.

Aplan is the industry store of timing data. The Aplan sectional running times shown are used in constructing the working timetable

Down (Southbound) direction

Type of Train: 221				Current Aplan (seconds)	Current Line Speeds RailSys (seconds)	Variation between Aplan and Current RailSys (seconds)	Proposed Linespeed Enhancement (seconds)	Variation between Aplan and Enhanced Linespeeds (seconds)
Barnt Green	Bromsgrove	Pass	Pass	150	156	-6	141	9
Bromsgrove	Stoke Works Junction	Pass	Pass	90	89	1	81	9
Stoke Works Junction	Abbotswood Junction	Pass	Pass	420	410	10	405	15
Abbotswood Junction	Ashchurch	Pass	Pass	390	390	0	387	3
Ashchurch	Cheltenham Spa	Pass	Stop	300	302	-2	302	-2
Cheltenham Spa	Barnwood Junction	Start	Pass	300	280	20	276	24
Barnwood Junction	Gloucester Yard Junction	Pass	Pass	60	32	28	31	29
Gloucester Yard Junction	Standish Junction	Pass	Pass	240	254	-14	230	10
Standish Junction	Charfield	Pass	Pass	480	474	6	470	10
Charfield	Yate	Pass	Pass	270	277	-7	250	20
Yate	Westerleigh Junction	Pass	Pass	120	114	6	104	16
Westerleigh Junction	Bristol Parkway	Pass	Stop	270	248	22	248	22
			total	3090	3026	64	2925	165
		Rounded total		**3090**	**3030**	**60**	**2940**	**150**

Type of Train: 170				Current Aplan (seconds)	Current Line Speeds RailSys (seconds)	Variation between Aplan and Current RailSys (seconds)	Proposed Linespeed Enhancement (seconds)	Variation between Aplan and Enhanced Linespeeds (seconds)
Barnt Green	Bromsgrove	Pass	Pass	150	159	-9	145	5
Bromsgrove	Stoke Works Junction	Pass	Pass	90	90	0	82	8
Stoke Works Junction	Abbotswood Junction	Pass	Pass	420	413	7	405	15
Abbotswood Junction	Ashchurch	Pass	Pass	390	393	-3	387	3
Ashchurch	Cheltenham Spa	Pass	Stop	300	304	-4	304	-4
			Total	1350	1359	-9	1323	27
		Rounded total		**1350**	**1350**	**0**	**1320**	**30**

Up (Northbound) direction

Type of Train: 221				Current Aplan (seconds)	Current Line Speeds RailSys (seconds)	Variation between Aplan and Current RailSys (seconds)	Proposed Linespeed Enhancement (seconds)	Variation between Aplan and Enhanced Linespeeds (seconds)
Bristol Parkway	Westerleigh Junction	Start	Pass	270	263	7	259	11
Westerleigh Junction	Yate	Pass	Pass	150	158	-8	104	46
Yate	Charfield	Pass	Pass	270	286	-16	260	10
Charfield	Standish Junction	Pass	Pass	480	476	4	469	11
Standish Junction	Gloucester Yard Junction	Pass	Pass	240	239	1	220	20
Gloucester Yard Junction	Barnwood Junction	Pass	Pass	30	36	-6	31	-1
Barnwood Junction	Cheltenham Spa	Pass	Stop	300	260	40	250	50
Cheltenham Spa	Ashchurch	Start	Pass	330	333	-3	333	-3
Ashchurch	Abbotswood Junction	Pass	Pass	390	385	5	383	7
Abbotswood Junction	Stoke Works Junction	Pass	Pass	420	411	9	405	15
Stoke Works Junction	Bromsgrove	Pass	Pass	90	91	-1	82	8
Bromsgrove	Barnt Green	Pass	Pass	180	176	4	160	20
				3150	3114	36	2956	194
		Rounded total		**3150**	**3120**	**30**	**2970**	**180**

Type of Train: 170				Current Aplan (seconds)	Current Line Speeds RailSys (seconds)	Variation between Aplan and Current RailSys (seconds)	Proposed Linespeed Enhancement (seconds)	Variation between Aplan and Enhanced Linespeeds (seconds)
Cheltenham Spa	Ashchurch	Start	Pass	360	367	-7	367	-7
Ashchurch	Abbotswood Junction	Pass	Pass	420	395	25	394	26
Abbotswood Junction	Stoke Works Junction	Pass	Pass	420	424	-4	410	10
Stoke Works Junction	Bromsgrove	Pass	Pass	90	91	-1	85	5
Bromsgrove	Barnt Green	Pass	Pass	240	202	38	182	58
			Total	1530	1479	51	1438	92
		Rounded total		**1530**	**1500**	**30**	**1440**	**90**

Appendix B

Impact on the Timetable Cotswold Line Trains Stopping at Worcester Parkway

Impact of Stopping trains at Worcester Parkway

Comments in black type assume there is no enhancement to the current railway infrastructure on the Cotswold line.

Comments in red type assume that the Cotswold line is double tracked between Charlbury and one mile west of Evesham. Tokenless block signalling is implemented between Evesham and Norton Junction, and additional signals are installed at Honeybourne and Charlbury. If there are no red comments attached to a particular train then the black type comments apply.

Comments that are highlighted in yellow are where the train cannot stop at Worcester Parkway, for the reasons outlined.

Down direction

2E04 06:08 Evesham to Worcester Foregate Street
Retimed to depart Evesham 1 minute earlier to stop at Worcester Parkway and maintain the same times forward.

1W07 05:43 London Paddington to Worcester Foregate Street
Retimed to depart Evesham 2 minutes earlier to stop at Worcester Parkway and will run 1½ minutes later through to Worcester Foregate Street. The later retiming will reduce the turnround at Foregate Street to 15½ minutes before its return to London Paddington.
1W07 will be able to depart 2 minutes earlier as it does not have to wait for 1P26 to relinquish the token at Evesham to allow access on to the single line to Norton Junction. 1W07 will therefore be able to arrive at Worcester Foregate Street as scheduled.

2W00 06:00 London Paddington to Worcester Foregate Street
Stops at Worcester Parkway and is retimed 2 minutes later forward to Foregate Street. This reduces the turnround at Foregate Street to 10 minutes before its return to London Paddington.
2W00 will be able to depart Evesham 2 minutes earlier as it does not have to wait for 1P32 to relinquish the token at Evesham to allow access on to the single line to Norton Junction. It will therefore arrive as scheduled at Worcester Foregate Street.

1W15 07:51 London Paddington to Great Malvern
Stops at Worcester Parkway and runs 3 minutes later through to Great Malvern. This requires the empty stock movement to Malvern Wells to be retimed by the same amount. 2E18 07:23 Warminster to Worcester Foregate Street will require 3 minutes additional pathing allowance, which gives a total of 15 minutes pathing allowance approaching Norton Junction to follow 1W15 to Worcester Shrub Hill.
1W15 will be able to depart Evesham 1 minute earlier, thus only running 2 minutes later through to Great Malvern.

1W01 08:51 London Paddington to Hereford
Departs Evesham 3 minutes earlier and stops at Worcester Parkway. It will utilise ½ minute of pathing allowance approaching Worcester Shrub Hill and will run forward as per the timetable.

1W19 09:51 London Paddington to Worcester Foregate Street
Stops at Worcester Parkway and utilises the 4 minutes pathing allowance approaching Norton Junction in its schedule. It can run forward as per the timetable.

1W02 11:51 London Paddington to Hereford
Stops at Worcester Parkway and arrives into Worcester Shrub Hill 3½ minutes later, where the station dwell time is reduced to allow the train to run forward as per the timetable.

1W39 13:51 London Paddington to Great Malvern
Stops at Worcester Parkway and utilises the pathing time approaching Worcester Shrub Hill, so it can arrive and run forward as per the timetable.

1W47 15:51 London Paddington to Worcester Shrub Hill
Stops at Worcester Parkway and runs 3 minutes later through to Worcester Shrub Hill. 2E25 15:28 Warminster to Great Malvern needs 3 minutes additional pathing allowance to follow 1W47 from Norton Junction.
1W47 can depart Evesham 1 minute earlier and run 2 minutes later through to Worcester Shrub Hill.

2E94 17:31 Oxford to Worcester Foregate Street
Retimed to depart Evesham 2 minutes earlier to stop at Worcester Parkway and arrive at Norton Junction in time to relinquish the token, without impeding 1P78 which has been retimed earlier from Worcester Foregate Street to allow it to stop at Worcester Parkway. 2E94 will have 2 minutes more pathing allowance, giving a total of 10 minutes pathing allowance approaching Worcester Shrub Hill

1W03 17:22 London Paddington to Hereford
1W03 can depart Evesham 2½ minutes earlier and stop at Worcester Parkway
1W57 17:52 London Paddington to Worcester Shrub Hill
Stops at Worcester Parkway and utilises the pathing allowance approaching Norton Junction, and runs forward as per the timetable.

1W04 18:22 London Paddington to Hereford
Stops at Worcester Parkway and runs 3 minutes later through to Hereford. This would require 1P84 20:58 Worcester Foregate Street to London Paddington to start from Shrub Hill as it is already on a minimum turnround allowance for a HST at Foregate Street. 5V47 20:50 Hereford to Worcester Carriage Sidings would have to wait at Ledbury for 3 minutes longer to avoid conflicting with 1W04 on the single line east of the station.
1W04 can depart 1 minute earlier from Evesham and thus run 2 minutes later through to Hereford. It will still have the same impact on 1P84.

1W67 19:22 London Paddington to Great Malvern
Departs Evesham 1½ minutes later to avoid conflicting with 1P84 20:58 Worcester Foregate Street to London Paddington on the single line west of the station. 1W67 can stop at Worcester Parkway and will run 5½ minutes later to Worcester Shrub Hill where the station dwell is reduced so it can run forward as per the timetable.
Can depart Evesham as scheduled and stop at Worcester Parkway. 1W67 will therefore arrive at Worcester Shrub Hill 4 minutes later, but depart as scheduled.

1W71 20:20 London Paddington to Great Malvern
Cannot stop at Worcester Parkway without causing a conflict with 1P90 22:31 Great Malvern to London Paddington on the single line between Worcester Shrub Hill and Henwick Signal Box. 1M90 cannot be retimed later without conflicting with 1M36 22:00 Bristol Temple Meads to Birmingham New Street at Worcester Shrub Hill.

1W77 21:48 London Paddington to Worcester Shrub Hill
Departs Moreton-in-Marsh 3 minutes later to avoid a conflict with 1P90 22:31 Great Malvern to London Paddington on the single line. 1W77 can stop at Worcester Parkway and arrives at Worcester Shrub Hill 5½ minutes later.
1W77 will not conflict with 1P90 at Moreton-in-Marsh as double track through to Evesham, thus will arrive at Worcester Shrub Hill 2½ minutes later.

Up Direction

2E03 05:24 Pershore to Evesham could start back at Worcester Parkway without impact; however it might not be necessary if 1P08 stops at Worcester Parkway.

Could depart up to 13 minutes later from Worcester as there is no requirement to shunt in conjunction with 3W06 03:27 London Paddington to Moreton-in-Marsh. It still needs to arrive in to Evesham, several minutes prior to the departure of 1P08 from Worcester Shrub Hill.

1P08 05:25 Great Malvern to London Paddington

1P08 would need to depart Great Malvern 2 minutes earlier to allow a stop at Worcester Parkway, as it does not have sufficient recovery time in its schedule to allow retiming through to Oxford. It cannot run later through Oxford due to being followed by 1P13 06:31 Banbury to London Paddington. The earlier timing of 1P08 through Worcester Shrub Hill will require 2G53 05:40 Worcester Shrub Hill to Cardiff to be retimed 2 minutes earlier to allow it to clear Norton Junction before 1P08 departs Shrub Hill. Other empty coaching stock moves around Shrub Hill will have to be retimed earlier to allow 1P08 to be retimed earlier.

1P14 05:35 Hereford to London Paddington

Stops at Worcester Parkway and runs 2½ minutes later forward to Kingham where it utilises pathing allowance, and runs ½ minute later forward to Wolvercot Junction, where it utilises another ½ minute of pathing time allowance. 1P14 will run through Oxford and beyond as per the timetable.

2E90 06:53 Worcester Foregate Street to Oxford

2E90 cannot stop at Worcester Parkway. 2E90 cannot depart earlier from Foregate Street as it follows 2O70 06:49 Worcester Shrub Hill to Weymouth to Norton Junction. 2O70 cannot be retimed earlier as it is already has a Rules of the Plan sub-standard turnround at Shrub Hill after the arrival of the units previous working. 2E90 cannot be retimed later from Worcester Parkway as it would conflict with 1W07 05:43 London Paddington to Worcester Foregate Street at Moreton-in-Marsh and 2W00 06:00 London Paddington to Worcester Foregate Street at Wolvercot Junction.

1P26 06:09 Abergavenny to London Paddington

Departs Hereford 1 minute earlier and stops at Worcester Parkway. It can utilise 1 minute pathing time allowance approaching Evesham and the Evesham station dwell is reduced by 1 minute. 1P26 departs Evesham and runs forward as per the timetable.

1P32 08:37 Worcester Foregate Street to London Paddington

Stops at Worcester Parkway and is retimed 3 minutes later forward to Evesham. Evesham station dwell is reduced by 1 minute and 1P32 runs 2 minutes later through to Wolvercot Junction where it utilises 2 minutes pathing time allowance to arrive Oxford as per the timetable.

1P36 09:36 Worcester Foregate Street to London Paddington

Stops at Worcester Parkway and is retimed 3 minutes later to Evesham, where the station dwell is reduced by 1 minute. 1P36 is retimed 1 minute later through to Wolvercot Junction and utilises 1 minute pathing time allowance approaching Oxford to arrive as per the timetable.

1P44 11:06 Great Malvern to London Paddington

Stops at Worcester Parkway and runs 2½ minutes later through to Moreton-in-Marsh where the station dwell is reduced. 1P44 departs Moreton as per the timetable. 1P44 cannot run earlier from Great Malvern as it would conflict with 1W01 08:51 London Paddington to Hereford on the single line between Henwick Signal Box and Worcester Shrub Hill.

1P49 12:39 Worcester Foregate Street to London Paddington

1P49 cannot stop at Worcester Parkway, without retiming later beyond Oxford. It cannot be retimed to depart earlier from Worcester Foregate Street due to its already tight turnround. The only other solution would be to delete another stop in its schedule to allow 1P49 to regain its scheduled path.

1P57 13:21 Hereford to London Paddington

Stops at Worcester Parkway and runs 3½ minutes later to Evesham, where the station dwell is reduced, and allowing 1P57 to run forward as per the timetable.

1P66 15:19 Hereford to London Paddington

Stops at Worcester Parkway and is retimed 2½ minutes later through to Moreton-in-Marsh, where the station dwell is reduced by 1 minute. Pathing time allowance approaching Ascott under Wychwood is utilised to allow 1P66 to run forward as per the timetable.

1P72 17:06 Great Malvern to London Paddington

Cannot stop at Worcester Parkway, which is due to passing 1W47 15:51 London Paddington to Worcester Shrub Hill at Evesham.

1P72 will be able to stop at Worcester Parkway as there is no requirement to arrive Evesham before 1W47 arrives. 1P72 will have its station dwell reduced at Evesham and depart as scheduled.

1P78 18:49 Worcester Foregate Street to London Paddington

Retimed to depart Foregate Street 3 minutes earlier, stops at Worcester Parkway and runs ½ minute later through to Wolvercot Junction where it utilises ½ minute of pathing time allowance arriving Oxford as per the timetable.

2E96 19:27 Worcester Foregate Street to Oxford

Cannot stop at Worcester Parkway as would then conflict with 1W5717:52 London Paddington to Worcester Shrub Hill at Evesham. 1W57 cannot be retimed later from

Evesham without delaying 1W04 18:22 London Paddington to Hereford following from Moreton-in-Marsh.

2E96 can stop at Worcester Parkway and run 2½ minutes later to Evesham. It does not impact on the arrival of 1W57 at Evesham due to the double track to the east of the station, thus parallel arrivals are allowed.

1P84 20:58 Worcester Foregate Street to London Paddington

Will need to start from Worcester Shrub Hill to allow 1W04 18:22 London Paddington to Hereford to stop at Worcester Parkway and be retimed later though to its destination. 1P84 can stop at Worcester Parkway and is retimed 3½ minutes later through to Oxford, where the station dwell is reduced allowing it to depart as per the timetable.

1P90 22:31 Great Malvern to London Paddington

If 1P90 stops at Worcester Parkway it will conflict with 1W77 21:48 London Paddington to Worcester Shrub Hill at Moreton-in-Marsh. 1W77 will need to be retimed 3 minutes later from Moreton. 1P90 will run 6 minutes later through to London Paddington.

1P90 will not conflict with 1W77 at Moreton-in-Marsh as there is double track through to Evesham.

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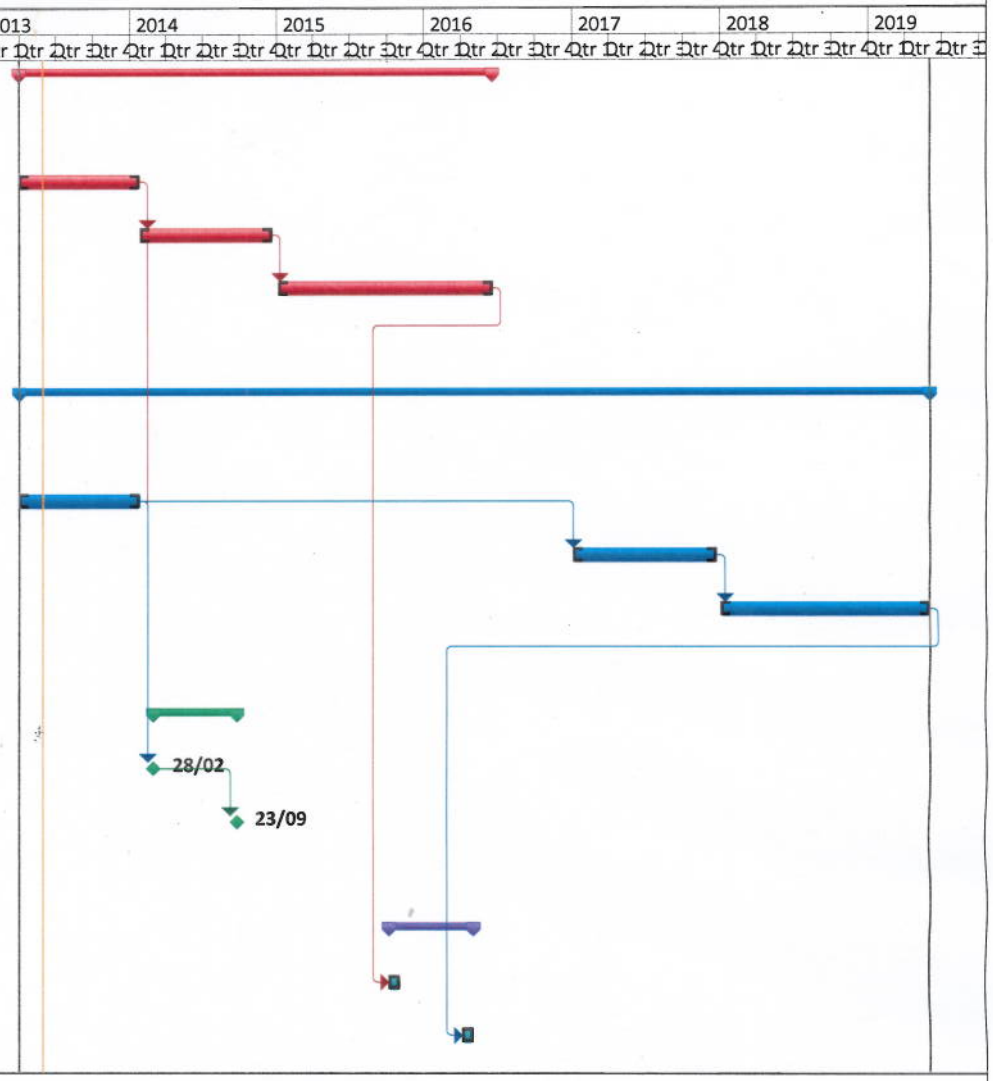
Worcestershire Parkway
Overall Strategic Programme

worcestershire county council

ID	Task Name	Duration	Start	Finish
1	Phase 1 - Single Platform on Cotswold Line	840 days	Mon 01/04/13	Fri 17/06/16
2				
3	Output Defintion to Option Selection (GRIP 1 to 3)	215 days	Mon 01/04/13	Fri 24/01/14
4	Single Option Development (GRIP 4)	235 days	Mon 27/01/14	Fri 19/12/14
5	Design/Construct/Hand back/Close out (GRIP 5 to 8)	380 days	Mon 05/01/15	Fri 17/06/16
6				
7	Phase 2 - Two Platforms on Birmingham to Bristol Line	1610 days	Mon 01/04/13	Fri 31/05/19
8				
9	Output Defintion to Option Selection (GRIP 1 to 3)	215 days	Mon 01/04/13	Fri 24/01/14
10	Single Option Development (GRIP 4)	254 days	Tue 03/01/17	Fri 22/12/17
11	Design/Construct/Hand back/Close out (GRIP 5 to 8)	369 days	Tue 02/01/18	Fri 31/05/19
12				
13	Full Planning Permission	147 days	Fri 28/02/14	Tue 23/09/14
14	Submit Application	0 days	Fri 28/02/14	Fri 28/02/14
15	Planning Committee	0 days	Tue 23/09/14	Tue 23/09/14
16				
17	Franchise Renewal	150 days	Mon 05/10/15	Fri 29/04/16
18	Great Western	20 days	Mon 05/10/15	Fri 30/10/15
19	Cross Country	20 days	Mon 04/04/16	Fri 29/04/16



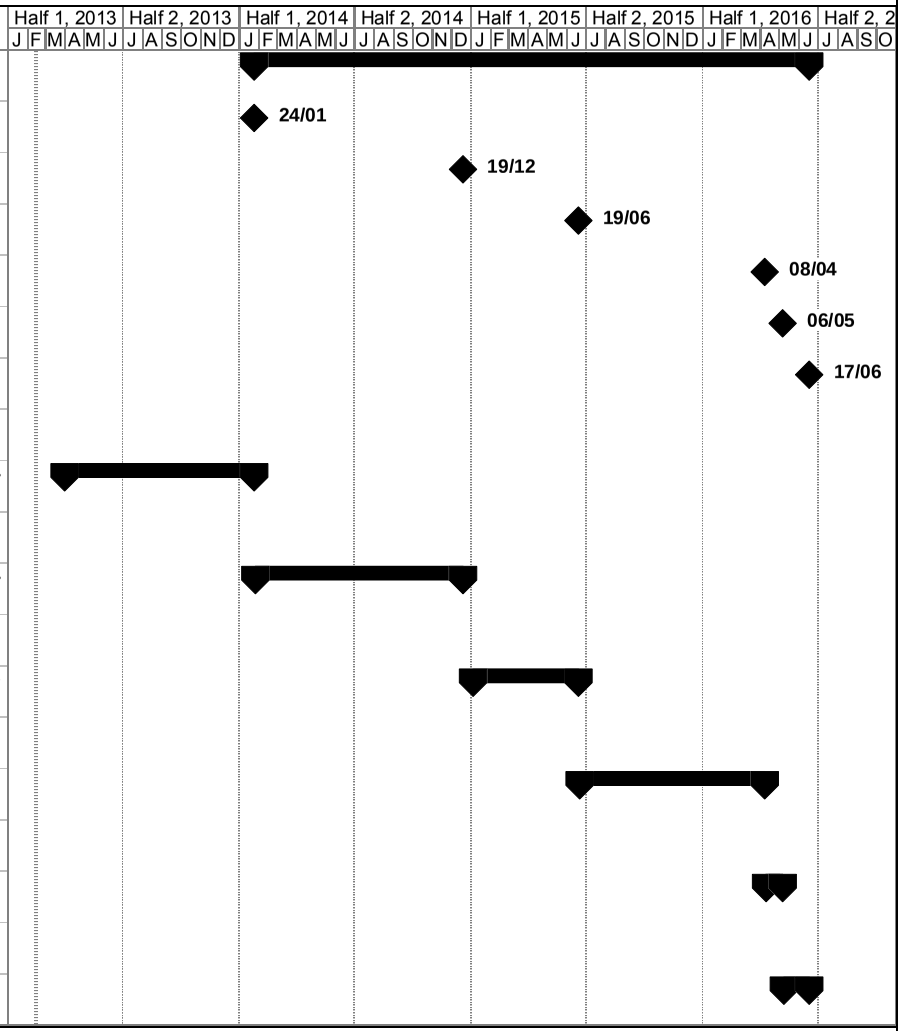
Worcestershire Parkway
Overall Strategic Programme

Task	External Tasks	Manual Task	Finish-only		
Split	External Milestone	Duration-only	Deadline		
Milestone	Inactive Task	Manual Summary Rollup	Progress		
Summary	Inactive Milestone	Manual Summary			
Project Summary	Inactive Summary	Start-only			

Worcestershire Parkway Regional Interchange
High Level Development Programme

worcestershire county council

ID	Task Name	Duration	Start	Finish
1	**Milestones**	**605 days**	**Fri 24/01/14**	**Fri 17/06/16**
2	GRIP 3	0 days	Fri 24/01/14	Fri 24/01/14
3	GRIP 4 (Financial Close)	0 days	Fri 19/12/14	Fri 19/12/14
4	GRIP 5	0 days	Fri 19/06/15	Fri 19/06/15
5	GRIP 6	0 days	Fri 08/04/16	Fri 08/04/16
6	GRIP 7 (Station ready for use)	0 days	Fri 06/05/16	Fri 06/05/16
7	GRIP 8 (Project complete)	0 days	Fri 17/06/16	Fri 17/06/16
8				
9	**GRIP 1/3**	**205 days**	**Mon 01/04/13**	**Fri 24/01/14**
45				
46	**GRIP 4**	**235 days**	**Mon 27/01/14**	**Fri 19/12/14**
69				
70	**GRIP 5**	**120 days**	**Mon 05/01/15**	**Fri 19/06/15**
72				
73	**GRIP 6**	**200 days**	**Mon 22/06/15**	**Fri 08/04/16**
75				
76	**GRIP 7**	**20 days**	**Mon 11/04/16**	**Fri 06/05/16**
78				
79	**GRIP 8**	**30 days**	**Mon 09/05/16**	**Fri 17/06/16**



Project: Worcestershire Parkway
Date: Wed 13/02/13

Task	Milestone	External Milestone	
Project Guide: Critical Task	Summary	Deadline	
Split	Project Summary		
Progress	External Tasks		

WORCESTERSHIRE PARKWAY STATION STUDY - Cost Schedule
New Station two platforms 256 m long low level, single platform 256m long high level plus ramps

Element	Sub-Element	Unit	Quantity	Rate	Cost (£ 2009)	Cost 2013	Phase 1	Phase 2	Comments
STATION	Site survey	sum	1	20,000	20,000	20,758	12,455	8,303	[60% incurred in Phase 1]
	Environmental impact study (noise etc)	sum	1	25,000	25,000	25,948	15,569	10,379	[60% incurred in Phase 1]
	Ground Investigation	sum	1	50,000	50,000	51,896	31,138	20,758	[60% incurred in Phase 1]
	Check track alignment Tamper	Sum	2	35,000	70,000	72,654	36,327	36,327	Separate visits low and high level
	Signal installations survey	sum	1	25,000	25,000	25,948	12,974	12,974	Separate visits low and high level
	Signalling - Protect signal cables	lin m	400	50	20,000	20,758	12,455	8,303	[60% incurred in Phase 1]
	Allowance for other signalling items	sum	1	100,000	100,000	103,791	62,275	41,516	Signal sighting, communications etc [60% incurred in Phase 1]
	Diversion of footpath crossing	sum	1	70,000	70,000	72,654	-	72,654	Includes Diversion Order [Not required crosses low level platforms]
	Environmental mitigation measures	sum	1	175,000	175,000	181,635	108,981	72,654	Prior to full Environmental Scoping Survey (great creasted newts, crocs, bats) includes intiial construction, etc (advice given by environment team 150 - 200k) [60% incu
	Earthworks (excl car park area)	sum			300,000	311,374	311,374	-	Widened embankment for Up side high level platform
	Widened bridge over farm underpass	sum	1	50,000	50,000	51,896	-	51,896	Allowance for dealing with former farm underpass partially blocked.
	2m retaining wall west of low level tracks	m	250	500	125,000	129,739	129,739	-	
	Extension of 1m dia culvert	sum	1	15,000	15,000	15,569	15,569		Culvert needs extending under widened embankment.
	Drainage provisions	sum			50,000	51,896	51,896	-	
	Platform foundations	lin m	768	200	153,600	159,424	53,141	106,283	Each 256 metre long includes ramps [One platform in Phase 1]
	Platform superstructure 3.0 m wide	sq mtrs	2310	600	1,386,000	1,438,550	478,271	960,279	Includes 150 m2 for shelters footbridge etc [One platform in Phase 1]
	Platform end ramps 6 x 8 mtrs long	sq mtrs	120	400	48,000	49,820	16,607	33,213	[One platform, ie 2 ramps in Phase 1]
	Provide footbridge with ramps	sum	1	400,000	400,000	415,166	-	415,166	Includes access to upper level
	Piling for lift shafts	no	2	10,000	20,000	20,758	20,758	-	
	lift towers	no	2	50,000	100,000	103,791	103,791	-	Based on Coleshill Parkway station
	lift machinery	no	2	70,000	140,000	145,308	145,308	-	Based on Coleshill Parkway station
	Fence back of platforms	m	570	60	34,200	52,315	17,438	34,877	[One platform in Phase 1]
	Platform lighting	m	530	110	58,300	60,510	20,170	40,340	[One platform in Phase 1]
	Access pathways	m	150	50	7,500	7,784	7,784	-	Majority in Phase 1 Infrastructure
	Fencing to access path	m	150	40	6,000	6,227	6,227	-	Majority in Phase 1 Infrastructure
	Lockable access gates	no	2	1,000	2,000	2,076	1,038	1,038	
	Lighting to access routes	m	150	50	7,500	7,784	7,784	-	Majority in Phase 1 Infrastructure
	Statutory services (electricity, water)	sum	1	200,000	200,000	207,583	207,583	-	Allows for new sub station
	Booking office	sum	1	150,000	150,000	314,000	314,000	-	Including ramps for disabled from road and to platform [Rates increased]
	Platform shelters and furniture	sum	6	40,000	240,000	249,100	166,067	83,033	Allows for 4 on upper level platform
	Station signage	no	30	250	7,500	7,784	4,670	3,114	[60% incurred in Phase 1]
	CCTV security	no	1	60,000	60,000	62,275	37,365	24,910	[60% incurred in Phase 1]
	Information Help point/sign boards	no	3	10,000	30,000	31,137	10,379	20,758	
	25 cycle rack and shelter	no	2	10,000	20,000	20,758	20,758	-	
CAR PARKING AND ACCESS	Utilities survey on Pershore Road	sum			20,000	20,758	20,758	-	
	Clearance/Earthworks for carpark area	sum	1	100,000	100,000	103,791	70,287.36	33,504	[300 spaces provided in Phase1]
	Drainage incl outfall	sum	1	100,000	100,000	103,791	103,791	-	
	Extend 2m culvert under Pershore Rd	sum			20,000	20,758	20,758	-	Extension under widened road for junction.
	Access road from B4084 250m long	m	250	1,200	300,000	311,374	311,374	-	Including drainage and lighting.
	Pershore Rd junction and signage	no	1	400,000	400,000	415,166	415,166	-	Roundabout proposal has been developed as part of the Transport Assessment in January 2013
	Car parking areas	no	443	1,500	664,500	689,694	467,061	222,633	cf Spon 2009 pg 584 [300 spaces provided in Phase1]
	Bus turning circle/taxi rank etc	no	1	100,000	100,000	103,791	103,791	-	
	Bus stop	no	1	20,000	20,000	20,758	20,758	-	WCC Gold Standard
	Footpaths	m	200	100	20,000	31,137	25,948	5,190	
	Fencing incl access road	m	550	60	33,000	34,251	34,251	-	
	Landscaping	sum	1	100,000	100,000	103,791	103,791	-	
	Lighting	sum	1	50,000	50,000	51,896	51,896	-	
	CCTV security	sum	1	60,000	60,000	62,275	62,275	-	
				Sub Total	6,153,100	**6,571,897**	**4,251,795**	**2,320,102**	
OTHER	Cotswold line speed restriction	sum	1	50,000	50,000	51,896	51,896		Allowance for speed restriction during embankment widening.
	Weekend ROTR* track possessions		22	20,000	440,000	456,682	207,583	249,099	Based on Longbridge possession costs.
	Project management, Design, etc	Industry rates			2,985,693	3,098,895	2,004,880	1,094,015	Includes construction supervision, NR fees,
	Testing & Commissioning				100,000	103,791	62,275	41,516	Based on Atkins study
	Contingency, land etc.				3,149,923	3,269,352	2,628,147	641,205	Consultants/WCC Estimate Estimate
				TOTAL	12,878,716	**13,552,513**	**9,206,576**	**4,345,937**	
						13.553	9.207	4.346	

Assumptions
*Assumes Rules of the Route (ROTR) possessions without compensation to operators
Note; figures are net of VAT.

6,571,893
13,552,513

WORCESTERSHIRE PARKWAY ENHANCEMENT SCHEME RISK REGISTER - FEBRUARY 2013

P30	Programme	Delivery of later phases proves difficult	programme delay / increased cost	5	5	25	Continued support from stakeholders for complete scheme	WCC	4	5	20
L1	Legal	Delays in signing Network Rail Asset Protection Agreement.	Minor Delay	5	5	25	Involve WCC legal services from outset.	WCC	2	2	4
D5	Design	Car park layout requires culvert to be diverted	Design changes	5	5	25	Early discussions with Environment Agency	WCC	5	1	5

P1	Programme	Planning Consent - Non achievement of planning would prevent construction. Conditions increase programme.	Major Delay	2	5	10	WCC development control to be regularly updated	WCC	2	4	8
P2	Programme	ROGS Process - safety case	Minor Delay	2	3	6	Early engagement with NR and appointment of CIP	Network Rail	1	3	3
P3	Programme	WCC Investment Approval - Required for progression to construction	Minor Delay	3	4	12	Programme to allow for process and dates	WCC	1	3	3
P4	Programme	Network Rail (NR) Electrification Programme - Station and electrification projects need to be coordinated	Major delay	3	4	12	Progress designs to be complete in advance of electrification programme. Regular programme review meetings with NR	WCC/NR	2	5	10
P5	Programme	Public Consultation causes major design changes	Major Delay	3	4	12	Communication with the stakeholders is required to obtain buy in prior to the consultation process. Programme to allow for design changes after consultation.	WCC	3	2	6
P6	Programme	Delay to Heads of Terms being drafted into initial land purchase.	Minor Delay	2	2	4	Early copy to be issued to landowner	WCC	1	2	2
P7	Programme	Finalising agreements/ funding for new station takes longer than planned	Major Delay	3	4	12	Continued regular engagement between WCC and NR	WCC/NR	3	3	9
P8	Programme	Network Rail takes longer to award design contract than planned	Moderate Delay	2	2	4	Clear remit	NR	1	2	2
P9	Programme	Delay with approach to design of rail infrastructure.	Minor Delay	4	4	16	Regular dialogue between WCC and NR. Firm commitment from both parties to begin work.	WCC/NR	1	3	3
P10	Programme	Delay with approach to design of non rail infrastructure.	Minor Delay	4	4	16	Regular internal dialogue. Decision to use internal resources or framework consultant.	WCC	1	3	3
P11	Programme	Designs takes longer than planned	Moderate delay	2	2	4	Clear remit and monitoring of progress.	WCC/NR	1	2	2
P12	Programme	Network Rail approvals take longer than allowed for (New Form A)	Moderate delay	2	2	4	NR to manage within normal timeframe	NR	1	2	2
P13	Programme	Project funding principles take longer to be agreed with WLTB	Moderate delay	1	2	2	Regular dialogue with WLTB	WCC	1	2	2
P14	Programme	DfT fail to agree train service commitment	Major Delay - Business plan does not work	3	3	9	Regular dialogue with Dft. WCC to commission timetabling work.	WCC	1	2	2
P15	Programme	WCC cabinet do not to agree to purchase land at first opportunity.	Moderate Delay	1	2	2	Pre meeting note to WCC cabinet	WCC	1	2	2
P16	Programme	Planning application determination takes longer than expected	Moderate delay	1	2	2	WCC to manage Planning Submission and process and pre consult.	WCC	1	2	2
P17	Programme	Planning Permission not granted	Scheme on hold	1	5	5	WCC to manage Planning Submission and process and pre consult.	WCC	1	2	2
P18	Programme	Project Board rejects financial model.	Scheme on hold	3	4	12	Pre Board meeting to discuss	WCC	2	2	4
P19	Programme	WCC cabinet approval to go to consultation is not given at the first opportunity	Scheme on hold	1	3	3	Pre meeting note to WCC cabinet	WCC	1	2	2
P20	Programme	Delay to Network Change being established	Minor delay	2	2	4	NR to manage in agreed timeframes	NR	1	2	2
P21	Programme	Delay to Station Change being established	Minor delay	2	2	4	NR to manage in agreed timeframes	NR	1	2	2
P22	Programme	Delay to Landlord Consent being established	Minor Delay	2	2	4	NR to manage in agreed timeframes, WCC resource required.	WCC/NR	1	2	2
P23	Programme	Network Rail approvals take longer than allowed for (Invitation to Tender)	Minor delay	1	2	2	NR to manage in agreed timeframes	NR	1	2	2
P24	Programme	GRIP 5 detailed design takes longer than expected	Minor delay	2	2	4	NR to manage in agreed timeframes	NR	1	2	2
P25	Programme	Network Rail approvals take longer than allowed for (Detailed Design)	Minor delay	2	2	4	NR to manage in agreed timeframes	NR	1	2	2
P26	Programme	Delays to procurement of Design &Build contractor	Minor delay	2	2	4		WCC	1	2	2
P27	Programme	Challenge is made to appointment of Design & Build contractor	Minor delay	2	2	4		WCC	1	2	2
P28	Programme	Delay to ROGS safety validation certificate approval	Minor delay	2	2	4	Early appointment of CIP	NR	1	2	2
P29	Programme	Construction risks cause increase to construction period	programme delay / increased cost	1	2	2	Construction methodology reviewed to reduce inherent risk in design	WCC	1	2	2
P30	Programme	Delivery of later phases proves difficult	programme delay / increased cost	5	5	25	Continued support from stakeholders for complete scheme	WCC	4	5	20
P31	Programme	Commissioning problems	programme delay / increased cost	1	2	2	Construction methodology reviewed to reduce inherent risk in design	WCC	1	2	2
P32	Programme	Time to procure telecommunications supply	programme delay / increased cost	2	4	8	Early discussion with telecommunications suppliers	WCC	2	2	4
P33	Programme	Time to procure water supply	programme delay / increased cost	2	4	8	Early discussion with Severn Trent Water	WCC	2	2	4
P34	Programme	Time to procure Distribution Network Operator supply	programme delay / increased cost	2	4	8	Early discussion with power suppliers	WCC	2	2	4
O1	Organisation	Problems with operation of Project Board	Minor Delay	2	2	4	Governance arrangement to be set up to formalise the relationships and responsibilities of the parties and to be set down in a formal agreement.	WCC	1	2	2
O2	Organisation	Paralell bid to develop Parkway submitted by private developer.	Loss of credibility. Bid undermined.	2	5	10	Formal discussions with private developer	WCC	1	5	5
O3	Organisation	Insufficient WCC resources to handle development of project within timescales.	Minor Delay	3	3	9	Appoint Project Manager.	WCC	1	1	1
O4	Organisation	Relationship with NR important to deliver parts of project	Minor Delay	2	2	4	Governance arrangement to be set up to formalise the relationships and responsibilities of the parties and to be set down in a formal agreement.	WCC/NR	1	2	2
L1	Legal	Delays in signing Network Rail Asset Protection Agreement.	Minor Delay	5	5	25	Involve WCC legal services from outset.	WCC	2	2	4
L2	Legal	Delays in access to land to undertake surveys etc	Minor Delay	4	3	12	Contact landowner to arrange access	WCC	2	2	4
L3	Legal	Delays in acquisition of land	Minor Delay	2	5	10	Involve WCC legal services from outset.	WCC	2	2	4
D1	Design	The outline design of the station building is being undertaken independently of the station platform design. The coordination may reveal design issues.	Late design changes	3	3	9	PM through regular design integration meetings to ensure coordination. Detailed designer to ensure design are integrated at GRIP5 detailed design stage.	WCC	1	3	3
D2	Design	Programme/ construction assumptions regarding track possessions required are not valid	Increase in construction programme	4	5	20	Constructability assessment required after completion of outline design. This should include experienced rail contractor to identify programme and risks.	WCC	2	5	10
D3	Design	Pedestrian flow analysis requires changes to station building design	Design changes	2	3	6	Secondary means of escape considered	NR	1	3	3
D4	Design	Sewage discharge consent not approved	Design changes/ increased cost	2	3	6	Early discussion with WCC planning authority	WCC	1	3	3
D5	Design	Car park layout requires culvert to be diverted	Design changes	5	5	25	Early discussions with Environment Agency	WCC	5	1	5

D6	Design	Archaelogical find on site	Design changes	1	4	4	Survey work to be undertaken	WCC	1	2	2
D7	Design	Electrification design may impact the platform design.	Redesign required	2	5	10	Discussion with NR and stakeholders on options	WCC	1	5	5
E1	Environmental	Flood Risk Assessment. This is required and may require changes to design concepts for station car park	Design changes/ increased cost	2	2	4	Produce Flood Risk Assessment.	NR	1	2	2
E2	Environmental	Ecology. Species not yet identified - delay to programme or require additional measures	Moderate Delay	4	2	8	WCC Ecologist involved in survey work and further work will be undertaken to understand impact on design and construction.	WCC	2	2	4
E3	Environmental	Contaminated land.	Major delay or costs	1	3	3	Undertake assessment of the contamination and potential for ground water contamination.	WCC	1	2	2
E4	Environmental	Bird nesting season causes delays (also Lizards / other species)	Moderate Delay	2	2	4	Planned construction period to take cognisance	WCC	1	3	3
E5	Environmental	Foundation design - piles not accepted	Minor Delay	2	3	6	Early discussion with EA/ station design team	WCC	1	3	3
E6	Environmental	Site of Special Scientific Interest adjacent to site.	Moderate Delay	2	2	4	Early discussion with EA	WCC	2	1	2
E7	Environmental	Agree design principles with Wychavon District Council	Moderate Delay	2	3	6	Early discussion with Wychavon District Council	WCC	1	2	2
E8	Environmental	Car Park discharge into existing water course not accepted	Design changes/ increased cost	2	3	6	Early discussion with EA	WCC	1	4	4
F1	Funding	Planning Consent. Conditions impose additional requirements not included in budget	Increased cost	3	4	12	Early involvement of WCC development control and other parties.	WCC	2	4	8
F2	Funding	Scope creep- additional works to station from WCC	Increased cost	3	3	9	Involvement of key decision people to understand the project and budget	WCC	2	3	6
F3	Funding	Scope creep - works assumed to be undertaken by NR not included in their scope	Increased cost	3	3	9	Manage through liaison and coordination with NR at project team meetings	WCC/NR	2	3	6
F4	Funding	Capital Costs based on Halcrow estimates	Increased cost	3	4	12	Recosting and Independent QRA after outline design confirmed.	WCC	2	3	6
F5	Funding	Availability of required levels of finance in the form of capital grants and borrowing does not appear.	Lack of funding	3	4	12	Prepare low cost alternative	WCC	2	4	8
F6	Funding	Extended development - requiring further development funding	Increased cost	3	4	12	PM to ensure that project scope is managed.	WCC	2	4	8
F7	Funding	Insufficient section106 contributions to allow project to move forward.	Increased cost	4	3	12	Outside projects control - but model alternative funding approach.	WCC/NR	3	3	9
PR1	Procurement	Selected procurement route is not appropriate for risk transfer and costs	Increased cost or risk	3	3	9	Review options including NR delivery	WCC	2	4	8
PR2	Procurement	Insufficient WCC resources to handle procurement of project within timescales.	Moderate Delay	3	2	6	Manage programme to meet date	WCC	2	2	4
PR3	Procurement	OJEC notice not issued on time	Moderate delay	2	3	6	Manage programme to meet date	WCC	1	3	3
PR4	Procurement	ITT not issued on time	Moderate delay	2	3	6	Manage programme to meet date	WCC	1	3	3
TF1	Train/freight companies	Train company is not convinced that the project is worthwhile	Train service cannot be implemented	3	5	15	Meet train company as early as possible and obtain letter of support for New Station Fund bid.	WCC	1	5	5
TF2	Train/freight companies	Project delayed by bidding process for next Greater Western franchise	Train service cannot be implemented	4	3	12	Ensure project is included in ITT for next Greater Western franchise.	WCC	4	1	4
TF3	Train/freight companies	Birmingham to Bristol service not achieveable in time tabling	Train service cannot be implemented	1	5	5	Early discussion with train companies/NR	WCC	1	3	3
PO1	Public Relations	Political pressure to adjust design	Increased costs	2	4	8	Clear programme with identified milestones and reasoning	WCC	1	4	4
PO2	Public Relations	Political announcements mis represent project	Mis information leads to bad publicity	2	4	8	Communication strategy agreed with WCC	WCC	1	4	4
PO3	Public Relations	Adverse publicity from Cotswold Line Promotion Group.	Mis information leads to bad publicity	2	2	4	Early meeting between WCC and Cotswold Line Promotion Group.	WCC	1	1	1
PO4	Public Relations	Agreement on station branding	Branding may delay opening	1	2	2	Early agreement between WCC and Great Western	WCC	1	1	1

Worcestershire Parkway
Worcestershire Local Transport Body Major Scheme Bid
Value for Money Report

Document Version: 1

Worcestershire County Council

May 2013

A **CH2M HILL** COMPANY

Halcrow

Document history

Worcestershire Parkway

Value for Money Report

DRAFT REPORT

Document Version: 1

This document has been issued and amended as follows:

Version	Date	Description	Approved by
1.0	28 May 2013	Final Report	DG

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1 Introduction

1.1 Background

1.1.1 This report has been prepared for Worcestershire County Council as part of the funding bid to the Worcestershire Local Transport Body (WLTB) for funding of the proposed new Worcestershire Parkway railway station to the east of Worcester. This funding bid to the WLTB is for Phase 1 of the proposed station.

1.1.2 This report covers the Value for Money (VfM) assessment of the proposed scheme, based on the WLTB guidance. The approach to the appraisal based on WebTAG (Transport Analysis Guidance).

1.2 Scheme Description

1.2.1 Worcestershire County Council has been working closely with the rail industry, including Network Rail, Train Operating Companies and the Department for Transport to develop and integrate the proposed station with other committed rail schemes. This has resulted in the development of a phased approach to the scheme delivery, as described below:

- **Phase 1** – will involve the construction of a new platform on the Cotswold Line, interchange facilities and parking;
- **Phase 2** – will involve the construction of two new platforms and associated platform access arrangements on the Birmingham-Bristol Line and a footbridge to replace an existing at grade crossing. This will enable Cardiff-Nottingham services to call at the station;
- **Phase 3** – will involve additional Cross-Country services calling at the station (this will be integrated with other rail services).

1.2.2 This funding bid to the Worcestershire Local Transport Body (WLTB) is for Phase 1 of the proposed station. Phase1 will include the construction of:

- **A new station building** including a staffed booking office and provision for supporting retail use;
- **Passenger information** facilities, including real time information;
- **Toilets**, including a disabled toilet facility;
- **A 300-space car park** together with new highway access from the adjacent B4084;
- **Short-stay parking facilities** for setting-down/collecting rail passengers;
- **Bus stops** and associated passenger waiting and information facilities;
- **Secure cycle parking;** and
- **One 256 metre platform on the Cotswold line** with associated access facilities, including a lift and stairs together with passenger shelters and associated information screens.

1.2.3 The Phase 1 design also includes for passive provision for the Phase 2 infrastructure including the provision of:

- **Two 256 metre platforms on the Birmingham – Bristol Line** together with passenger shelters and associated information screens;
- **A footbridge** linking the station building with the Up platform, together with associated access infrastructure, including lifts & stairs; and
- **Additional parking** taking the overall capacity **up to 500 spaces.**

1.2.4 The current site has a public right of way over the Birmingham to Bristol line. Phase 2 of the scheme will provide a new footbridge over the Birmingham – Bristol Line to replace the existing at-grade crossing. This reduces risk and could contribute to overall journey time reductions, as well as enhancing access to the station for pedestrians and cyclists.

1.2.5 The design will also make passive provision for a potential fourth platform on the Cotswold Line in the event that this section of the line is redoubled. The exact design and facilities to be provided will be subject to:

- Assessment within GRIP Stage 3 option selection works currently being undertaken by Worcestershire County Council; and
- A full public consultation process prior to the planning application submission in spring 2014.

1.2.6 Consistent with discussions with Network Rail, the phased delivery of the station would see the train service levels building up over time.

1.3 Report Structure

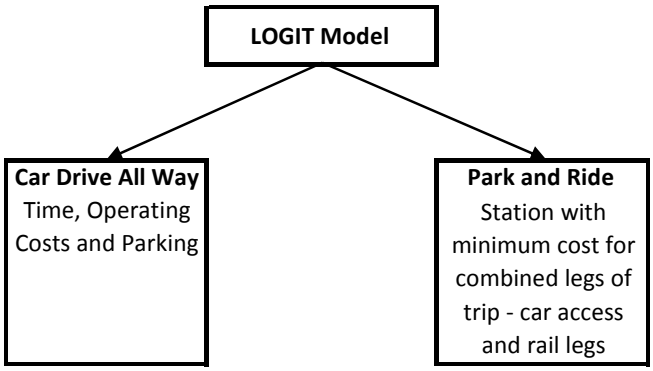
1.3.1 The report is structured in the following Chapters, namely:

- Chapter 1: Introduction
- Chapter 2: Demand and Revenue Forecasting
- Chapter 3: Economy Impacts
- Chapter 4: Economic Appraisal
- Chapter 5: Environmental Appraisal
- Chapter 6: Social and Distributional Impacts
- Chapter 7: Appraisal Summary Table

2 Demand and Revenue Forecasting

2.1 Introduction

2.1.1 This passenger demand and revenue forecasting analysis is based on the work completed in February 2013 for the New Station Funds Bid to Network Rail. A LOGIT model was developed validated to current rail demands and patterns at existing stations in the Worcestershire area. The structure of the model is shown in the following chart.



2.1.2 The model were built for the AM peak 8-9 hour and interpeak hour (average of inter peak 9-12hours), and covered the forecast years of 2016 and 2026.

2.2 Forecasting Approach

2.2.1 The updated demand and revenue forecasting approach is based on the evidence of existing rail based park and ride trips in Worcestershire and surrounding counties, and looks at the following potential demands:

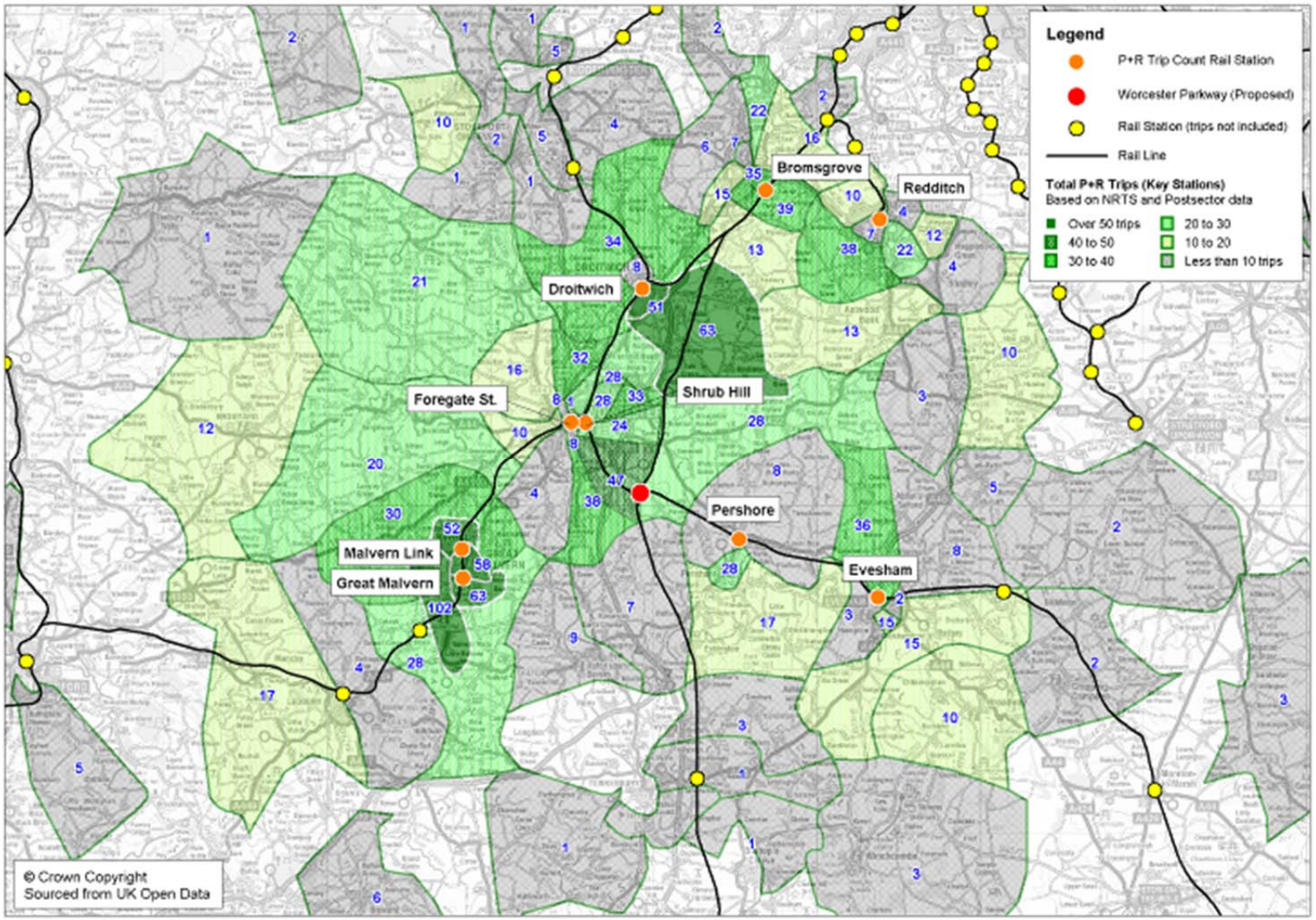
- transfer from an existing station, with the passengers changing to use the Parkway station as it provides a reduction in overall travel time (including costs such as fares and parking);
- transfer from car (drive all the way) trips. Such demand is focussed on who to pay to park at the destination and are not provided with a free parking space, hence trips to major centres such as Birmingham, Bristol and London are key potential markets.; and
- generated travel demand that results from the Parkway offering reduced travel times and costs for travel. This effect includes trips that may change destination due to the Parkway, given the improvements in travel and reduced costs, and trips switching from other non-model modes (i.e. cycle).

2.2.2 National Rail Travel Survey (NRTS) data has been obtained from the Department for Transport for a range of key stations in the Worcestershire area. This data has been used to update the existing forecasting models, including validation of existing demands looking at the current catchments and behaviour choices of rail based park and ride trips. Figure 2.1 shows the distribution on existing rail based Park and Ride trips as shown in the NRTS data.

2.3 Demand and Revenue Forecasts

The revised forecasts are reported in Table 2.1 (Phase 1 only for East-West platforms and main station) and Table 2.2 (full station with north-south platforms).

Figure 2.1: Park and Ride Catchment for All Catchment Stations



2.3.1 Demand and Revenue Forecasts The forecasts show annual demand of 102,000 for Phase 1 and 254,000 for Phases 1+2 rail trips (2-way – boardings and alightings) by 2026. Overall, 53% of demand will come from existing rail, with 40% from car (drive all the way), and 7% of demand will be generated. Note: Forecast demand excludes all trips accessing by non-car modes, that could add up to 10% to the totals based on evidence at other Parkway stations, i.e. Warwick Parkway and is particularly relevant as Worcestershire Parkway will be linked by bus to existing and planned developments in and adjacent to Worcester City, including the sizeable urban extensions planned to the east and south of the city.

Table 2.1: Demand Forecasts – Phase 1 Only (East West Line)

2016 Demand	AM hour	Interpeak Hour	Daily boardings	Annual Boardings	Total Demand (2-way)	Percentage of Demand	Net Rail Revenue Changes £'s 2011 fares
From Rail	20	6	82	24,720	49,440	53%	£ 1,236,000
From Car	15	4	61	18,360	36,720	40%	£ 918,000
Generated	3	1	11	3,360	6,720	7%	£ 168,000
Total People	38	11	155	46,440	92,880	100%	£ 2,322,000
Total Cars	32	9	129	38,640	77,280		
2026 Demand	**AM hour**	**Interpeak Hour**	**Daily boardings**	**Annual Boardings**	**Total Demand (2 way)**	**Percentage of Demand**	**Net Rail Revenue Changes £'s 2011 fares**
From Rail	22	6	89	26,760	53,520	53%	£ 1,338,000
From Car	16	5	67	20,040	40,080	39%	£ 1,002,000
Generated	3	1	14	4,080	8,160	8%	£ 204,000
Total People	42	12	170	50,880	101,760	100%	£ 2,544,000
Total Cars	35	10	141	42,360	84,720		£ 148,260

Table 2.2: Demand Forecasts – Phases 1 and 2

2016 Demand	AM hour	Interpeak Hour	Daily boardings	Annual Boardings	Total Demand (2 way)	Percentage of Demand	Net Rail Revenue Changes £m's 2011 fares
From Rail	51	14	206	61,800	123,600	53%	£ 1,972,000
From Car	38	11	153	45,900	91,800	40%	£ 1,464,000
Generated	7	2	28	8,400	16,800	7%	£ 268,000
Total People	96	27	387	116,100	232,200	100%	£ 3,704,000
Total Cars	80	22	322	96,600	193,200		
2026 Demand	**AM hour**	**Interpeak Hour**	**Daily boardings**	**Annual Boardings**	**Total Demand (2 way)**	**Percentage of Demand**	**Net Rail Revenue Changes £'s 2011 fares**
From Rail	56	15	223	66,900	133,800	53%	£ 2,134,000
From Car	41	12	167	50,100	100,200	39%	£ 1,598,000
Generated	8	3	34	10,200	20,400	8%	£ 325,000
Total People	105	30	424	127,200	254,400	100%	£ 4,058,000
Total Cars	88	25	353	105,900	211,800		

2.3.2 The rail station abstraction and destinations of Parkway trips are summarised in Tables 2.3 and 2.4. The splits for Phases 1 and 1+2 of the station scheme are provided in each table. NRTS data shows about 40% of existing park and ride trips are to London and SE from Worcestershire area rail stations. This suggests more business trips and less regular daily commuting trips.

Table 2.3: Abstraction Station of Parkway Trips

Abstraction Station	Phase 1 Only Percentage of Trips	Phases 1 +2 Percentage of Trips
Evesham and Hinterland	15%	26%
Worcester Foregate St	29%	17%
Worcester Shrub Hill	61%	36%
Droitwich Spa	17%	10%
Pershore	7%	11%
Total	**100%**	**100%**

Table 2.4: Destinations of Parkway Trips

Station	Phase 1 Only Percentage of Trips	Phases 1 +2 Percentage of Trips
London/SE	100%	40%
Birmingham	0%	43%
Cheltenham	0%	5%
Bristol/SW/Wales	0%	12%
Total	**100%**	**100%**

2.4 Benchmarking of Demand Forecasts

2.4.1 The forecast demand for Worcestershire Parkway Phase 1 and 2 has been compared to demands at existing stations in the catchment area. Annual demand at existing stations has been extracted from ORR statistics for 2009/10, and is based on total annual demands (boarders and alighters) and is factored to 2016 using RUS growth factors. Table 2.5 and Figure 2.2 shows a comparison of annual demands, plus the impact Worcestershire Parkway will have on demands at existing stations. The 1pth option on each line is reported for Parkway. The level of service at each station is shown in Table 2.6.

2.4.2 The forecast annual demand at Worcestershire Parkway is less than half that at Warwick Parkway. The latter currently has a more frequent service to key centres at half hourly to London and Birmingham, hence will attract higher demands.

2.4.3 Rail abstracted demand to Worcestershire Parkway will have the biggest percentage impact to Evesham and Pershore (including hinterlands), with reductions of 15.6% (including trips west to Worcester and east to Oxford and London) and 21.3% in flows.

2.4.4 Impacts to Worcester stations (Foregate Street and Shrub Hill) will be 65,000 trips or 2.7% of demand. Overall, with Worcestershire Parkway rail demand will increase by 109,000 trips or 2.2%.

2.4.5 The parking spaces requirement at Worcestershire Parkway is 300 spaces and a parking charge of £3. In comparison, at Warwick Parkway there are currently 589 parking spaces, with peak parking (pre 10am weekday) costs £6.50 per day and off peak (post 10am) is £4.00 per day.

Table 2.5: Comparison and Impacts of Parkway Demands Phase 1 Only

Station	No Worcestershire Parkway	With Worcestershire Parkway	Change in Annual Demand	Percentage
Worcester Foregate Street	1,539,000	1,518,000	-21,000	-1.4%
Worcester Shrub Hill	886,000	842,000	-44,000	-5.0%
Evesham	211,000	178,000	-33,000	-15.6%
Droitwich Spa	488,000	476,000	-12,000	-2.5%
Bromsgrove	456,000	456,000	0	0.0%
Great Malvern	480,000	480,000	0	0.0%
Malvern Link	259,000	259,000	0	0.0%
Pershore	61,000	48,000	-13,000	-21.3%
Kiddersminster	1,370,000	1,370,000	0	0.0%
Stourbridge Junction	1,200,000	1,200,000	0	0.0%
Coleshill Parkway *	135,000	135,000	0	0.0%
Telford Central	1,006,000	1,006,000	0	0.0%
Lichfield City	646,000	646,000	0	0.0%
Warwick Parkway	476,000	476,000	0	0.0%
Worcestershire Parkway	n/a	232,000	n/a	n/a

Note: * station in second year of opening, so demand still building in.

Figure 2.2: Demands at Worcestershire Stations

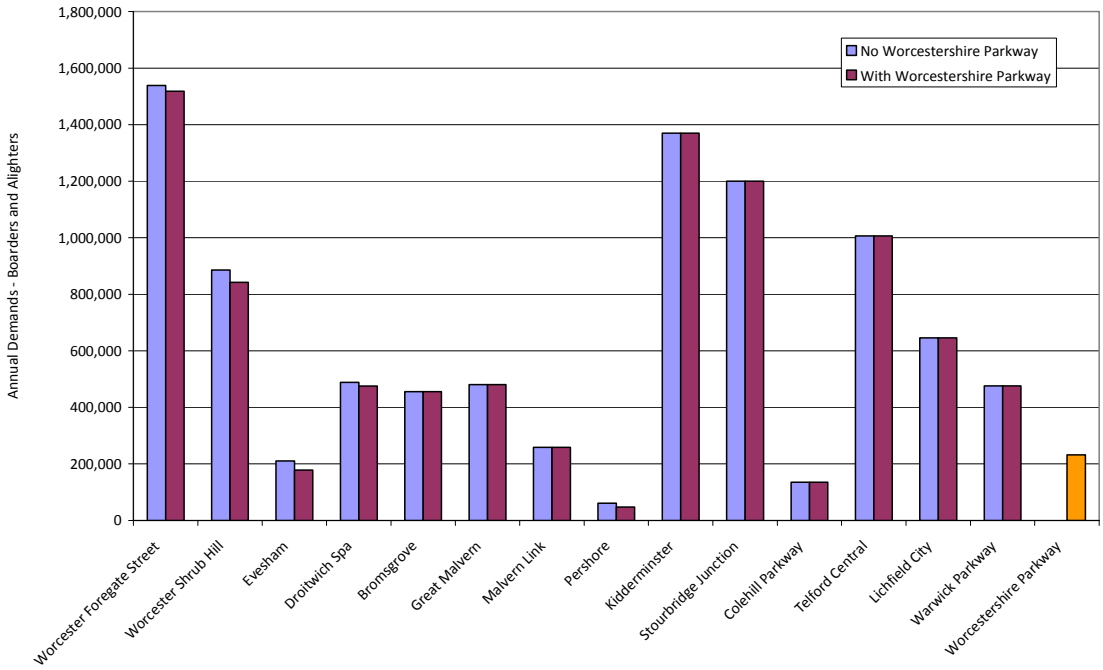


Table 2.6: Level of Services (Services per Hour)

Station	London	Birmingham	Other Destinations
Worcester Foregate Street	1	4	3
Worcester Shrub Hill	1	2	2
Evesham	1	0	1
Droitwich Spa	0	4	4
Bromsgrove	0	2	1
Great Malvern	1	2	2
Malvern Link	1	2	3
Pershore	1	0	1
Kidderminster	1	3	3
Stourbridge Junction	1	6	4
Coleshill Parkway	0	3	2
Telford Central	0	2	2
Lichfield City	0	5	3
Warwick Parkway	3	3	1
Worcestershire Parkway	1	1	2

3 Economy Impacts

3.1 Introduction

3.1.1 This section includes a summary of the Wider Economic Assessment completed for the New Station Funds bid and produced by WCC Research and Intelligence Unit (February 2013). The assessment is based on the distribution of trips from the demand forecasting models, and the national statistics on GVA and trip purposes.

3.2 Wider Economic Benefits

3.2.1 Analysis of the wider economic benefits of Worcestershire Parkway indicates that the scheme will contribute substantially to the achievement of these objectives through improving accessibility and connectivity.

3.2.2 A proportionate assessment has been undertaken of the economic impact of Worcestershire Parkway Station using a combination of the modelling of forecast journey data and its impacts on Worcestershire Gross Value Added (GVA) together with the Cambridge Econometrics Local Economic Forecasting Model (LEFM). The estimate of passenger demand suggests that the scheme will generate an additional 16,800 journeys per annum i.e. excluding mode switching from car and rail abstracted demand. This has been used in conjunction with the current capital costs of the scheme to estimate the impact on Worcestershire's GVA. It should be noted that there is likely to be significant wider benefits to the United Kingdom as a whole related to economic activity outside of the county.

Gross Value Added Analysis

3.2.3 The GVA analysis apportions the 16,800 generated journeys by destination, using a combination of travel to work data from 2001 Census and the updated demand forecasts for the distribution of rail demand at Worcestershire Parkway from the LOGIT modelling. The GVA figures are the latest available (2011), therefore monetary figures here are at 2011 prices. The assumption has been made that 13% of the generated journeys are for business purposes (based on the National Rail Transport Survey, 2008), for which the GVA could be attributed to Worcestershire. Thus the GVA estimate does not include any impacts from commuting or leisure. This could be considered to be a conservative assumption.

3.2.4 On this basis it is estimated that the investment in Worcestershire Parkway Phase 1 would generate approximately £18 million of additional GVA for the Worcestershire economy per year. This is the equivalent of about 1,110 jobs. The total station (phases 1 and 2) could generate £22m and 1,350 jobs. The table below summarises the derivation of this estimate.

Table 3.1: GVA Estimates for Phase 1 Destinations

Destination	GVA per head (£ 2011)	Difference from Worcestershire GVA (£ 2011)	Proportion of journeys from Worcestershire Parkway (%)	Number of additional journeys for business generated from Parkway per year	GVA from generated journeys (£ 2011)
London	£35,638	£19,270	36	786	£15.15
Oxford	£23,603	£7,235	11	240	£1.74
Reading	£32,798	£16,430	4	87	£1.44
Total Phase 1				**1,114**	**£18.32**
Total Phase 2				**1,070**	**£4.89**
Total Phases 1+2				**2,184**	**£23.22**

Sources: GVA per head - Office for National Statistics, 2012
Journey destinations - Halcrow, 2012 and Office for National Statistics (2001 census)

Local Economic Forecasting Model

3.2.5 As a 'check and balance' the LEFM was also used to estimate the change in Worcestershire GVA resulting from the Worcestershire Parkway scheme. The model estimated that an additional £25-30 million in GVA would be generated per year and approximately 1,000 jobs. This would also result in a difference in household disposable income of on average £8 million per year over the same period.

3.3 Conclusion

3.3.1 Comparison of the results of the two methods of analysis indicates that a conservative estimate of the investment of Worcestershire Parkway Phase 1 would generate at least £18 million per year gross additional GVA to the county's economy. Additionally, the scheme would create approximately 1,000 – 1,110 new jobs locally. This average is likely to be conservative and probably underestimates the GVA impact, as it does not include any positive impacts relating to commuting or leisure travel. Neither does it allow for benefits to the wider UK economy. However, on the basis that the additional GVA were maintained over a 30 year evaluation period, and including for growth in travel demands over this period, this would equate to approximately £600 million additional GVA for Worcestershire's economy.

4 Economic Appraisal

4.1 Approach to Calculating BCR

4.1.1 The approach to calculating the Benefits Costs Ratio (BCR) has been completed in a spreadsheet, and is based on TUBA and the values in WebTAG (units 3.5.6 and 3.5.9). The outputs from the highway traffic model covering changes in vehicle hours and kilometres travelled between the reference case and the scheme form the inputs to the economic appraisal. The values used are reported in Section 2.5 of this report. The Appraisal Summary Table (AST) is provided in Table 7.1.

4.1.2 The total scheme benefits are wide ranging and include the following:

- Journey time (generalised cost) savings;
- Decongestion benefits;
- Accident cost savings;
- Other external benefits from a change in car use (accidents/ air quality etc);
- Parking cost savings from City Centre locations;
- Reliability of travel time;
- Journey time dis-benefit to through rail passengers;
- Wider economic benefits.

4.2 Scheme Costs

4.2.1 The cost of the scheme is summarised in Table 4.1. Values are given in out-turn costs. These costs have been included in the economic appraisal, adjusted accordingly for price base, real cost change and optimism bias. Table 4.2 shows the cost profiles for the phases of the station.

Table 4.1: Scheme Costs – Phase 1 only

2013 Prices	12/13	13/14	14/15	15/16	Total
WLTB	£0.00	£0.00	£0.00	£1.39	£1.39
Third Party	£0.00	£0.00	£0.00	£0.87	£0.87
WCC	£0.08	£0.89	£1.91	£4.05	£6.93
Total	£0.08	£0.89	£1.91	£6.31	£9.19
Nominal Costs	**12/13**	**13/14**	**14/15**	**15/16**	**Total**
WLTB	£0.00	£0.00	£0.00	£1.60	£1.60
Third Party	£0.00	£0.00	£0.00	£1.00	£1.00
WCC	£0.08	£0.93	£2.10	£4.64	£7.75
Total	£0.08	£0.93	£2.10	£7.24	£10.35

Note: Values include land and part 1 claims. Values in £'s millions.

Table 4.2: Capital Cost Profiles – Phase 1 only

Financial Year	Phase 1
12/13	0.8%
13/14	9.7%
14/15	20.8%
15/16	68.6%
Total	**100.0%**

4.2.2 The cost analysis for the appraisal and the total values reported in the PA Table (Table 4.5) are summarised in Table 4.3 below.

Table 4.3: Appraisal Costs Summary – Phase 1 Only

Appraisal Analysis £m's	12/13	13/14	14/15	15/16	Total
2013 Costs	£0.08	£0.89	£1.91	£6.31	£9.19
Costs with Real Cost Change	£0.08	£0.91	£1.99	£6.70	£9.67
Costs with OB	£0.12	£1.51	£3.31	£11.12	£16.06
Costs with Market Prices	£0.15	£1.82	£4.00	£13.44	£19.41
Costs in 2010 Prices and Values	£0.14	£1.64	£3.48	£11.32	£16.58

Note: Values in £'s millions

4.3 Economic Assumptions

4.3.1 Outlined below are the assumptions that have been utilised in the deriving of benefits and costs for the economic appraisal of Worcestershire Parkway:

General Appraisal Assumptions

- Opening year is expected to be 2016 for Phase 1 and 2018 for Phase 2;
- Costs and benefits are appraised over a 60 year period;
- All costs and benefits have been discounted to 2010 present values;
- Discounting has been applied at 3.5% for the first thirty years of the appraisal period, followed by 3.0% for the second thirty years of the appraisal period (WebTAG); and
- The market price adjustment factor is assumed at 20.9% (WebTAG).

Cost Assumptions

- Optimism bias of 66% for rail side and 44% for non-rail side investment costs has been applied; optimism bias of 41% for operating costs has been applied (WebTAG);
- Investment cost figures have been provided in 2016 prices in real terms; operating and renewal cost figures have been provided in 2013 (current) prices;
- Investment costs include a contingency of 15%, and costs consist of costs of scheme development, land and legal, construction, rail operations and testing, contingencies and risk;
- Split of infrastructure costs for Phase 1 is defined in the funding split;
- TOCs paying any rail renewal and investment costs;
- Operating costs include costs of station long term access charges, station and other staff, supervision and overheads;

- Any shortfall between Train Operating Companies' (TOC's) revenue and operating cost will be subsidised by central government; conversely any revenue above operating cost will be assumed to be a saving in subsidy payments by central government (Industry Structure);
- Car park operating and revenue allocated to Local Government; and
- Passenger revenue and station operating costs allocated to TOCs.

Benefit Assumptions

- Benefits have been modelled for years 2009, 2016, and 2026;
- Facility benefits have been assumed at 16p in 2004 prices (WebTAG);
- Decongestion benefits have been assumed to be 10p per km (WebTAG 3.9.5);
- Noise benefits have been assumed to be 0.1p per km (WebTAG);
- Local air quality benefits have been assumed to be 0.5p per km (WebTAG);
- Climate change benefits have been assumed to be 0.3p per km (WebTAG);
- Accident benefits have been assumed at 1p per km consistent (WebTAG);
- Infrastructure benefits have been assumed to be 0.06p per km in line (WebTAG);
- Value of time for business and consumer users is taken to be £5.44 per hour in 2009; £6.03 per hour in 2016; and £6.76 per hour in 2026 (Modelling Assumptions);
- Vehicle occupancy is 1.42 in 2009; 1.36 in 2016; 1.27 in 2026 (Modelling Assumptions);
- The split of user proportions is 0.924 consumer users and 0.076 business users; and
- Benefits have been assumed to 'ramp-up' as a proportion of derived annual benefits for the first three years after scheme opening at 0.5 for year 1; 0.75 for year 2; 0.9 for year 3 and 1 for year 4.

Through Passenger Impacts

4.3.2 The addition of Worcestershire Parkway to the network will lead to disbenefits for some existing rail passengers in the form of increased in-vehicle times due to the additional stop on the route. The increased additional time in the Central Case is assumed to be 1.3 minutes per vehicle. Overall the through disbenefit reduces the PVB by £28.9m and the revenue reduction, and hence increase in grant subsidy to rail, changes the PVC by £36.6m. The split of disbenefit for Phase 1 of the scheme is 10% of the above values. The through passenger loading flows on the East-West services are much lower than on the north-south services.

4.4 Economic Appraisal Results

4.4.1 The social cost benefit analysis results are provided for Phase 1 of the station in the transport economic efficiency (TEE) Table 4.4, public accounts (PA) Table 4.5, and analysis of monetised costs and benefits (AMCB) Table 4.6.

Table 4.4: Central Case Option TEE Table – Phase 1 Only

Economic Efficiency of the Transport System (TEE)

Consumers - Commuting	**ALL MODES**		**ROAD**	**`**	**RAIL**	**OTHER**
User benefits	**TOTAL**		**Private Cars & LGVs**	**Pass**	**Passengers**	
Travel time	£58,797		£14,575	-	£44,222	-
Vehicle operating costs	-		-	-	-	-
User charges	-£961		-	-	-£961	-
During Construction & Maintenance	-		-	-	-	-
NET CONSUMER BENEFITS	£57,836	*(1a)*	£14,575	-	£43,261	-

Consumers - Other	**ALL MODES**		**ROAD**	**BUS & COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**		**Private Cars & LGVs**	**Pass**	**Passengers**	
Travel time	£19,599		£4,858	-	£14,741	-
Vehicle operating costs	-		-	-	-	-
User charges	-£320		-	-	-£320	-
During Construction & Maintenance	-		-	-	-	-
NET CONSUMER BENEFITS	£19,279	*(1b)*	£4,858	-	£14,420	-

Business

User benefits			**Goods Vehicles**	**Business Cars & LGVs**	**Pass**	**Freight**	**Pass**
Travel time	£25,746		£77	£6,325	-	£19,344	-
Vehicle operating costs	£170		-	-	-	£170	-
User charges	-£395		-	-	-	-£395	-
During Construction & Maintenance	-		-	-	-	-	-
Subtotal	£25,522	*(2)*	£77	£6,325	-	£19,120	-

Private sector provider impacts			**Bus**	**Rail**	**Rail**
Revenue	£3,776		-	£3,776	-
Operating costs	-£20,560		-	-£20,560	-
Investment costs	-		-	-	-
Grant/subsidy	£16,784		-	£16,784	-
Subtotal	-	*(3)*	-	-	-

Other business impacts							
Developer contributions	-£1,606	*(4)*	-£1,606	-	-	-
NET BUSINESS IMPACT	£23,916	*(5) = (2) + (3) + (4)*				

TOTAL		
Present Value of Transport Economic Efficiency Benefits (TEE)	£101,030	*(6) = (1a) + (1b) + (5)*

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Table 4.5: Central Case Option PA Table – Phase 1 Only

Public Accounts

Local Government Funding	**ALL MODES TOTAL**		**ROAD INFRASTRUCTURE**	**BUS and COACH**	**RAIL**	**OTHER**
Revenue	-£509		-			-£509
Operating Costs	£313		-			£313
Investment Costs	£14,053		-			£14,053
Developer and Other Contributions	-£1,606		-	-	-	-£1,606
Grant/Subsidy Payments	-		-	-	-	-
NET IMPACT	**£12,252**	*(7)*	**-**	**-**	**-**	**£12,252**

Central Government Funding: Transport						
Revenue	-		-			-
Operating costs	-		-			-
Investment Costs	£2,570		-			£2,570
Developer and Other Contributions	-		-	-	-	-
Grant/Subsidy Payments	£16,784		-	-	£16,784	-
NET IMPACT	**£19,354**	*(8)*	**-**	**-**	**£16,784**	**£2,570**

Central Government Funding: Non-Transport						
Indirect Tax Revenues	£4,879	*(9)*	£4,879	-	-	-

TOTALS		
Broad Transport Budget	**£31,606**	*(10) = (7) + (8)*
Wider Public Finances	**£4,879**	*(11) = (9)*

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Table 4.6: Central Case Option AMCB Table – Phase 1 Only

Analysis of Monetised Costs and Benefits

Noise	£19	*(12)*
Local Air Quality	£96	*(13)*
Greenhouse Gases	£60	*(14)*
Reliability	£10,414	*(15)*
WEBS	£5,104	*(16)*
Economic Efficiency: Consumer Users (Commuting)	£57,836	*(1a)*
Economic Efficiency: Consumer Users (Other)	£19,279	*(1b)*
Economic Efficiency: Business Users and Providers	£23,916	*(5)*
Accidents	-	*(17)*
Present Value of Benefits (see notes) (PVB)	£111,845	*(PVB) = (12) + (13) + (14) + (15) + (16) + (1a) + (1b) + (5) + (17) - (11)*
Broad Transport Budget and Indriect Tax	£36,485	*(10)+(11)*
Present Value of Costs (see notes) (PVC)	£31,606	*(PVC) = (10)*
OVERALL IMPACTS		
Net Present Value (NPV)	£80,239	NPV = PVB - PVC
Benefit to Cost Ratio (BCR)	3.54	BCR = PVB / PVC

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Table 4.7: Summary of Economic Results by Station Phase

Benefits / Costs	Economic Value 2010 Prices and Values £000's		
	Phase 1	Phase 2+3	Full Station
Consumers – Commuting	£57,836	£70,688	£128,524
Consumers – Other	£19,279	£23,563	£42,841
Business	£23,916	£31,194	£55,109
External and Other Benefits	£15,693	£19,181	£34,874
Indirect Tax	-£4,879	-£5,963	-£10,841
Present Value of Benefits (PVB)	**£111,845**	**£138,663**	**£250,508**
Local Government Funding	£12,252	£5,212	£17,464
Central Government Funding	£19,354	£58,900	£78,254
Present Value of Costs (PVC)	**£31,606**	**£64,112**	**£95,718**
Net Present Value (NPV)	**£80,239**	**£74,551**	**£154,790**
Benefits Costs Ratio (BCR)	**3.54**	**2.16**	**2.62**

Note: Values in 2010 Prices and Values

4.5 Sensitivity Tests for Phase 1

4.5.1 A number of sensitivity tests have been completed on the Phase 1 economic case. The tests cover a faster rail service with 10% saving on on-train time from line improvements on the Cotswold line and into London Paddington, higher parking charges at the Parkway station at £5 per car from £3 per car in the central case. Also high demand is also assumed in the final test to allow for more generate demand effects and greater transfer from car.

Table 4.8: Phase 1 Economic Sensitivity Tests

Benefits / Costs	Economic Value 2010 Prices and Values £000's			
	Phase 1 - Central Case	Faster Rail Travel Time	Higher Parking Charge at £5/car	+10% demand increase
Consumers - Commuting	£57,836	£64,287	£57,328	£69,361
Consumers - Other	£19,279	£21,429	£19,109	£23,120
Business	£23,916	£26,584	£23,706	£28,682
External and Other Benefits	£15,693	£17,444	£15,556	£18,821
Indirect Tax	-£4,879	-£5,423	-£4,836	-£5,851
Present Value of Benefits (PVB)	**£111,845**	**£124,321**	**£110,864**	**£134,133**
Local Government Funding	£12,252	£12,126	£12,259	£11,984
Central Government Funding	£19,354	£19,155	£19,365	£18,931
Present Value of Costs (PVC)	**£31,606**	**£31,281**	**£31,624**	**£30,915**
Net Present Value (NPV)	**£80,239**	**£93,040**	**£79,240**	**£103,218**
Benefits Costs Ratio (BCR)	**3.54**	**3.97**	**3.51**	**4.34**

Note: Values in 2010 Prices and Values

5 Environmental Appraisal

5.1 Background

5.1.1 An Appraisal Summary Table and relevant WebTAG analysis have been carried out in respect of the scheme. The appraisal is based on previously completed survey work, readily available site information and site visits, and adopts proportional assessments as applicable for a "small project bid" under the WLTB and WebTAG. The methodology employed for each specialist assessment topic is set out below. The Appraisal Summary Table (AST) is provided in Table 7.1. A desk based scoping exercise was undertaken and site visits were made by the environmental assessment team during 2009, this information was reviewed and updated for this value for money report.

5.2 Noise

5.2.1 The site is presently agricultural land and is bordered immediately to the north and east by open countryside with the B4084 Worcester to Pershore Road passing to the north-east. The Oxford, Worcester and Wolverhampton (OWW) railway line passes along the southern boundary of the site and the Birmingham and Gloucester (B&G) railway line passes to the west. The road and railway form the main noise sources. There are no noise-sensitive properties to the east or south of the proposed station site within the study area. There are a number of residential properties to the north and west. To the west of the site are a range of industrial buildings located between the B&G railway line and Woodbury Lane.

5.2.2 Changes in road traffic noise (and associated nuisance) levels are likely to be the principal noise impact on the existing noise environment in the vicinity of the site and at properties adjacent to the wider road network. In addition, there is the potential for changes in traffic-induced vibration levels at properties located adjacent to carriageways affected by changes in traffic flow. Furthermore, there is the potential for noise impacts to arise at nearby properties due to new vehicle and pedestrian movements on-site and the announcements and other activities associated with running the station.

5.2.3 It is recommended that further, detailed level noise assessment is undertaken in order to complete a Plan Level appraisal as described in WebTAG Unit 3.3.2. A baseline noise survey should be undertaken at the surrounding noise-sensitive receptors.

5.2.4 Overall assessment score cannot be provided at this stage.

5.3 Air Quality/ Greenhouse Gases

5.3.1 Worcestershire Parkway is likely to lead to a change in traffic and vehicular emissions along the B4084, which is the only road located directly alongside the proposed site. The B4084 is surrounded by few properties and there are likely to be only small changes in public exposure due to vehicles accessing and leaving the proposed site along this route. There is also the potential for changes in flows on the surrounding local road network.

5.3.2 The impact of the proposed Parkway site on local air quality will be determined by the change in traffic and the subsequent change in NOx and PM10 emissions on the local road network.

5.3.3 The impact of the Parkway site on greenhouse gas emissions will principally depend upon the total change in vehicle kilometres travelled across the regional road network, which cannot be ascertained at this time.

5.3.4 Overall assessment score cannot be provided at this stage.

5.4 Landscape/ Townscape

5.4.1 Visual receptors in the immediate vicinity of the proposed site, are associated with the transport corridors of the B4084, the Cheltenham to Birmingham railway line and Worcester to Oxford railway line and also residential properties located to the north and west and the industrial units to the west of the proposed site. A public Right of Way also crosses the site. The landscape character is of recognised local distinction; typified by open wooded agricultural land with hedgerows and boundary trees although the rural nature is diminished by the railways and industrial buildings.

5.4.2 The proposed site will change from a predominantly rural landscape type into a more urban one and will result in the creation of a new pattern, extending the urban character of the surrounding industrial units to the west. The hedgerows and mature trees provide structure to the landscape and field boundaries and it is important that this element is retained in the future development. The scheme should aim to replace any hedgerows and hedgerow trees lost within the proposed site, with similar species.

5.4.3 The site has been identified as having a medium-low flood risk, the management of. which may have landscape/visual implications. These are discussed further in section 5.7.

5.4.4 Overall assessment is **Moderate Adverse** although this could be mitigated further by sensitive design and enhancement opportunities.

5.5 Heritage of Historic Resources

5.5.1 The evidence suggests that the general area has always been utilised for small scale settlement and agriculture/parkland probably from the Iron Age through to the modern day. It is unclear if this early occupation extends into the site. Truncation levels within the site have not been assessed. There are a number of locally listed buildings, which are not statutorily protected and are outside of the area which will be directly physically affected, however their setting may be adversely affected.

5.5.2 There is a likelihood of further unknown buried archaeology, which will not be more accurately quantifiable until a detailed archaeological desk study is carried out. If there are archaeological remains within the site, these could be adversely impacted by the Parkway scheme. At this stage the assessment of impacts is based on precautionary approach, but could be reduced following further assessment which would reduce uncertainty and set out any requirement for mitigation measures.

5.5.3 Overall assessment is **Slight Adverse**.

5.6 Biodiversity

5.6.1 Cooksholme Meadow SSSI is very close to the proposed site (approximately 0.2km), with Botany Bay Meadows SWS being approximately 1km. Both designated sites are separated from the site by barriers such as roads and railways. Direct impacts to designated sites are not predicted and the potential for water quality impacts will be mitigated through design.

5.6.2 The site and its surroundings comprise locally important hedgerows, trees, semi-improved and improved grassland and agricultural land. There are small pockets of woodland and wet woodland and the railway embankments comprise scrubby woodland. The site is known to support a number of protected and important species including bats, badgers, reptiles, amphibians and breeding birds and

has the potential to support dormice and great crested newts, although at this stage this has not been confirmed.

5.6.3 The proposed site would potentially result in a loss of habitats including woodland, scrub, hedgerows and grassland. There may also be habitat loss for protected and important species. Bats could also be impacted by lighting disturbance. Sensitive design will minimise adverse impacts and there are opportunities to enhance the area through creation and management of wetland areas.

5.6.4 Overall assessment is **Slight Adverse** assuming sensitive design to mitigate adverse impacts.

5.7 Water Environment

5.7.1 The proposed Worcestershire Parkway site is located within the River Avon catchment, which ultimately discharges to the River Severn, downstream of the study area. An unnamed ordinary watercourse appears to flow in a north east direction. The direction of flow is toward the north east and the watercourse is a tributary of the Bow Brook catchment which is a Local Wildlife Site. Two small ponds are shown to the north of the railway line outside of the site. A culverted drain crosses the site from the western boundary the source of which is presumed to be the two identified ponds and discharges into the unnamed watercourse.

5.7.2 The site is located outside of the Environment Agency floodplain for either flooding from rivers without defences or the extent of extreme flooding. Approximately 450m to the north of the site a narrow floodplain is shown following the course of the surface water feature. The emerging Worcestershire Surface Water Management Plan has identified localised flooding affecting the site, surrounding land and infrastructure to the North and South all of which will require careful design consideration. There are potential opportunities for flood risk management and enhancement of the site through use of sustainable drainage measures and wetland creation. Consideration will need to be given to improving water quality as the Bow Brook catchment is identified by the Environment Agency as a failing watercourse under the Water Framework Directive.

5.7.3 The effects on all water environment features is considered slightly adverse, with potential for mitigation reliant upon design and implementation of appropriate drainage (e.g. SUDS), including attenuation of pollutants, control of runoff rates volumes, and opportunities for biodiversity enhancement.

5.7.4 Overall assessment is **Slightly Adverse**

6 Social Impacts Appraisal

6.1 Introduction

6.1.1 An assessment of the social impacts of the AST is provided in this chapter. The Appraisal Summary Table (AST) is provided in Chapter 7, Table 7.1.

6.2 Physical Fitness

6.2.1 Health implications of transport proposals can be identified by assessing "changes in the opportunities for increased physical activity through cycling and walking" (WebTAG unit 3.3.12). More walking and cycling can also give benefits by improving the physical environment within communities, in turn helping to foster community spirit, with implications for health.

6.2.2 The proposed scheme will include secure cycle storage facilities that will seek to promote cycling as a favourable mode of choice for accessing the Worcestershire Parkway rail station. The new facility will include surfacing that is cycle friendly and will benefit from high quality lighting and surveillance. The Worcestershire Parkway station will receive demand from the local catchment, some of which may be subject to modal shift to active modes from car trips associated with accessing other rail stations previously. However, it should be noted that the primary share of the demand associated with Phase 1 of the proposals will be undertaking strategic trips that by their very nature place constraints on the use of active modes for accessing the origin station.

6.2.3 Overall assessment is **Slight Beneficial.**

6.3 Journey Quality

6.3.1 Journey quality can include journey time, but, as time is assessed elsewhere in the appraisal, quality is assessed through 'journey ambience', which considers key elements related to way that journeys are completed rather than the mechanics of the trip (WebTAG unit 3.3.13), and covers traveller care, travellers' views and traveller stress.

6.3.2 The proposed scheme will provide journey ambience benefits in respect of traveller care due to the fact that Worcestershire Parkway station will be a new structure that will be clean, modern and contain facilities that will ensure the transport interchange experience is made comfortable. In the station building itself toilets including disabled facilities will be provided, whilst provision for supporting retail use is also included. The new platform on the Cotswold line will include a lift allowing easy access, along with high quality shelters and associated information screens in order to improve the waiting experience for passengers.

6.3.3 The impact of the proposed scheme in terms of travellers' views is considered to be minimal. This judgement is based on the fact that although a new station facility is to be provided, the services from this facility will make use of existing rail lines. The station itself will be constructed in a manner that will ensure it is attractive to users and complementary to the local landscape, but no major change impact is expected from the baseline.

6.3.4 Traveller stress will be reduced on the basis that modal shift from the private car is expected. This modal shift will include long-distance trips that were previously undertaken in their entirety by private car. These trips transferring to a reliable and efficient rail service will directly reduce traveller stress associated with congestion and conflict with other highway users. Further benefits will accrue as rail

passengers will be able to undertake other tasks whilst travelling, uncertainty regarding route choice / reaching the final destination will be reduced (noting that the proposals include a staffed booking office and real time passenger information), and the fear of accidents will be largely eradicated.

6.3.5 Overall assessment is **Moderate Beneficial.**

6.4 Accidents

6.4.1 The proposed scheme has the potential to reduce the number of accidents occurring as a result of the decongestion / modal shift it will deliver. However there is no obvious safety issue on the existing surrounding highway network, hence the benefits are limited. Furthermore, the scale of the proposed intervention and its associated service provision ensure that the reduction in traffic flows is limited in the wider context.

6.4.2 Taking into account the overall scale of impact, it is concluded that the distributional impacts of the scheme are neutral, and no further detailed analysis is required.

6.4.3 Overall assessment is **Neutral.**

6.5 Security

6.5.1 The new Worcestershire Parkway station will provide passengers with a high quality environment that will include lighting, surveillance, secure parking (for both motorised vehicles and pedal cycles) and will have a staffed booked office. The facilities provided will however be broadly consistent with those provided at other rail stations of a similar nature and consequently the uplift to users is considered to be minimal.

6.5.2 Taking into account the overall scale of impact, it is concluded that the distributional impacts of the scheme are neutral, and no further detailed analysis is required.

6.5.3 Overall assessment is **Neutral.**

6.6 Access to Services

6.6.1 The appraisal of access to services (WebTAG unit 3.6.3) is focused on public transport accessibility to employment, services and social networks, with particular emphasis on the accessibility to key destinations.

6.6.2 Phase 1 will deliver improved access between the City of Worcester and London, accounting for intermediate stations at Pershore, Evesham, Oxford and Reading. Although Worcester Foregate Street and Worcester Shrub Hill rail stations provide direct access to London and the associated destinations en-route, the ability for strategic trips to be undertaken via these origin stations is constrained by the limited car parking facilities that are available. Worcester Foregate Street does not have any parking facilities, whilst Worcester Shrub Hill is limited to 121 spaces. Phase 1 of the Worcestershire Parkway station proposals will provide a 300 space car park and associated highway access from the adjacent B4084, ensuring that access to rail services and the destinations they serve is significantly improved.

6.6.3 Through reducing congestion by reducing car travel, the proposed scheme will deliver reduced journey times and improved reliability to other highway users, including public transport services. This will support economic activity, as well as improving access to other important services. The new facility will also include designated easy access bus stops allowing local bus services to integrate with

rail services. This will promote longer journeys to be undertaken in their entirety through the use of the integrated public transport network.

6.6.4 The proposed scheme is intended to deliver some of the transport infrastructure that is required to support development of new employment and residential areas. The South Worcestershire Development Plan indicates that the proposed scheme will help to support the delivery of the plan (for 23,200 additional homes and 280 hectares of employment land). It will in particular, support the planned 20 hectares of employment land and 2,450 dwellings associated with the Worcester South urban extension (Broomhall Community and Norton Barracks Community) as well the other urban extensions planned for the east and west of Worcester City. The delivery of this development will provide access to new employment 'destinations' in close proximity to a significant residential offering, consequently minimising the need to travel and promoting a sustainable society.

6.6.5 Figure 6.1 shows the distribution of income in the area around the proposed Worcestershire Parkway rail station site. The areas in the immediate vicinity of the site that will benefit from improved accessibility to both Worcester city centre and the destinations that are served en-route to London are relatively affluent. This affluence is reflected by higher rates of car ownership in comparison to areas within the City of Worcester district boundary. The proposed scheme will encourage modal shift from the private car in the areas to the south of the City of Worcester which in turn will assist in reducing congestion within the city centre and along the county's primary road network and the Highways Agency Strategic Road Network.

6.6.6 The largest area of deprivation includes the Tolladine and Warndon communities which are situated north east of the city centre. These areas will benefit from decongestion, alongside the wider economic benefits generated through the ability of the scheme to attract additional investment to the City of Worcester region. None of the 0-20% income band areas shown in Figure 6.1 are expected to experience adverse impacts. Taking into account the scale of the local catchment and the impact expected there, alongside the dispersed distribution of wider benefits, it is concluded that the distributional impacts of the scheme are neutral.

6.6.7 Overall assessment is **Moderate Beneficial.**

6.7 Affordability

6.7.1 The proposed scheme will not make material changes to the cost of transport in Worcester, although it does have the potential to slightly reduce travel costs by car as a result of the reduced congestion associated experienced on the local highway network. It also has the potential to reduce travel costs on the basis the provision of a new rail station has reduced the overall distance that rail users are required to travel to access a station.

6.7.2 As no material impact is expected, it is concluded that the distributional impacts of the scheme are neutral, and no further detailed analysis is required.

6.7.3 Overall assessment is **Neutral.**

6.8 Severance

6.8.1 The severance sub-objective is concerned with the effects noted by non-motorised modes, and especially pedestrians. The proposed scheme does not have any material impact upon severance as the new station will be built to utilise existing rail and road alignments. New pedestrian facilities will be

provided, but given that they are only associated with the new rail station itself rather than linking to the wider network, no benefit is considered applicable.

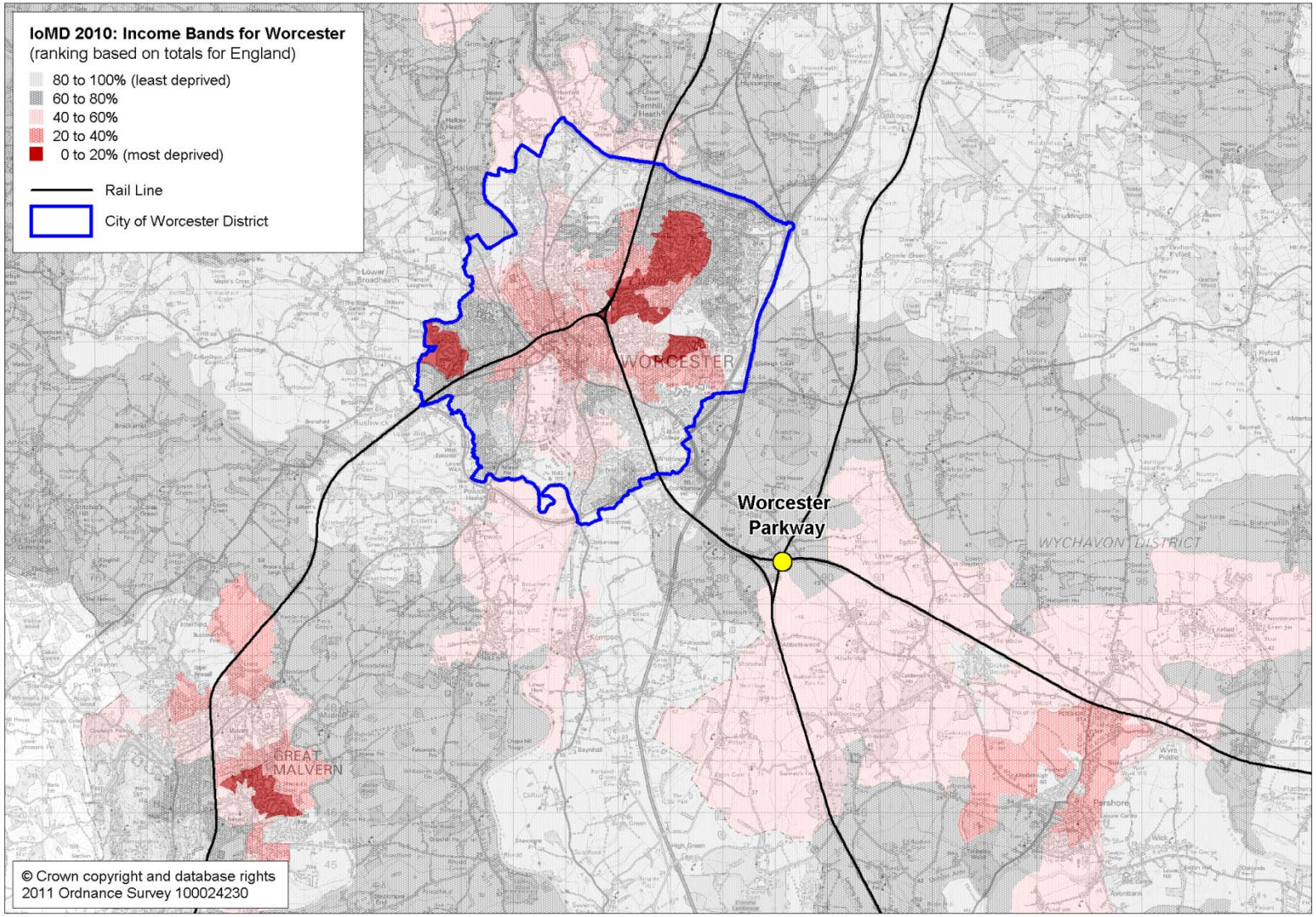
6.8.2 As no material impact is expected, it is concluded that the distributional impacts of the scheme are neutral, and no further detailed analysis is required.

6.8.3 Overall assessment is **Neutral.**

6.9 Option Values

6.9.1 Option and non-use values are most closely associated with a willingness to pay to preserve an option to use public transport services, especially rail, even if an individual or household does not use or never does use them. As such, WebTAG unit 3.6.1 indicates that appraisal is primarily applicable to schemes that introduce a new transport service to an area. Conceptually, option values can apply to roads, but only where material and significant changes are made in road networks. This does not apply to the Parkway. The appraisal of option values is considered to be **Neutral**.

Figure 6.1: Worcestershire Income Bands



7 Appraisal Summary Table

The AST for the proposed Parkway scheme is presented in Table 7.1. The WLTB proforma assessment table for Section 9 is provided in Table 7.2.

Table 7.2: Proforma Assessment Table (Section 9)

	Tick one box for each row only						
	Large / High Beneficial	Moderate Beneficial	Slight Beneficial	Neutral	Slight Adverse	Moderate Adverse	Large / High Adverse
Economic (Note: VfM: Low = 0>1.4, Medium 1.5 > 2.0, High 2.0+)							
Transport Economic Efficiency (VfM)	✓						
Reliability		✓					
Wider Economic Benefits		✓					
Environment							
Noise				✓			
Local Air Quality				✓			
Greenhouse Gasses				✓			
Landscape / Townscape					✓		
Heritage					✓		
Biodiversity					✓		
Water Environment				✓			
Social							
Physical Fitness				✓			
Journey Quality		✓					
Accidents				✓			
Security				✓			
Access to Services			✓				
Affordability				✓			
Severance				✓			
Option Values				✓			

Table 7.1: Appraisal Summary Table for Parkway

Appraisal Summary Table	Worcestershire Local Transport Body Local Major Scheme Outline Business Case	Date produced:	24-May-13	Contact:

Name of scheme:	Worcestershire Parkway Railway Station	Name	Peter Blake
Description of scheme:	Phase 1 of a new Parkway Railway Station to the east of Worcester, comprising platforms serving the services to London	Organisation	Worcestershire County Council
		Role	Head of Services

Impacts		Summary of key impacts	Assessment				
			Quantitative			Qualitative	Monetary £000's £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	The package delivers time saving benefits to business trips, with faster overall travel times to London through improved access to rail services. Impacts will result in mode shift from car to rail, so reducing congestion on part of the strategic road network.	Value of journey time changes(£) n/a Net journey time changes (£) 0 to 2min: n/a; 2 to 5min: n/a; > 5min: n/a			Large Beneficial	£ 17,639	Large Beneficial
	Reliability impact on Business users	Car business and goods travel times will all benefit from reliability improvements as traffic flows and congestion are reduced	+10% of time saving benefit			Moderate Beneficial	£ 1,764	
	Regeneration	The link will provide opportunities to unlock the South Worcestershire Development Plan (SWDP) sites that are located adjacent to the scheme, and will provide new housing, employment and economy benefits to the City and County.	n/a			Moderate Beneficial	n/a	
	Wider Impacts	Total benefit of £18m GVA pa for Phase 1 of the station and 1,100 addtional jobs.	Based on trip distribution and regional GVA per head values			Moderate Beneficial	£18m pa	
Environmental	Noise	Present noise levels in the area of the proposed Worcester Parkway site are a result of road traffic on the B4084 and rail traffic on the Oxford, Worcester and Wolverhampton railway line and the Birmingham and Gloucester railway line. The nearest noise-sensitive properties lie adjacent to the B4084. There is the potential for adverse impacts to arise at properties close to the proposed Parkway site and on the surrounding road network associated with the arrival and departure of vehicles and from activities within the proposed site.	n/a			No Assessment	n/a	No Assessment
	Air Quality	The Parkway site is not located within an Air Quality Management Area (AQMA). Worcestershire Parkway is likely to lead to a change in traffic and vehicular emissions along the B4084. The B4084 is surrounded by few properties and there are likely to be only small changes in public exposure due to vehicles accessing and leaving the proposed site along this route. There is also the potential for changes in flows on the surrounding local road network.	n/a			No Assessment	n/a	No Assessment
	Greenhouse gases	No assessment completed	Change in non-traded carbon over n/k Change in traded carbon over 60y n/k			No Assessment	n/a	
	Landscape	The proposals will result in the permanent urbanisation of a predominantly rural area of recognised local distinction. The scheme should aim to replace any hedgerows and hedgerow trees lost within the site, with similar species. The element of localised flooding will require careful design consideration in terms of material selection for the proposed scheme.	n/a			Moderate Adverse	n/a	
	Townscape	as part of Landscape	n/a			Moderate Adverse	n/a	
	Heritage of Historic resources	There is potential for unknown remains to be present and these could be impacted. Potential impact to the setting of locally important historical buildings. Score based on precautionary approach, but could be reduced following further assessment which would reduce uncertainty and set out any requirement for mitigation measures.	n/a			Slight adverse	n/a	
	Biodiversity	The proposed site could result in a loss of habitats including woodland, scrub, hedgerows and grassland. There may also be habitat loss for protected and important species including bats, badger, dormice, amphibians and reptiles. Bats could also be impacted by lighting disturbance. Sensitive design will minimise adverse impacts and there are opportunities to enhance the area through creation and management of wetland areas.	n/a			Slight adverse	n/a	
	Water Environment	Water features comprise minor surface water courses (ditches) and ponds of low importance other than with respect to flood risk (medium). Underlying groundwater of medium importance (based on potential existing/future use for agricultural supply). The magnitude of the effects on all features is considered negligible, reliant upon implementation of available mitigation measures through appropriate	n/a			Neutral	n/a	
Social	Commuting and Other users	The package delivers time saving benefits to commuters and other trips, with faster overall travel times to London through improved access to rail services. Impacts will result in mode shift from car to rail, so reducing congestion on part of the strategic road network.	Value of journey time changes(£) n/a Net journey time changes (£) 0 to 2min: n/a; 2 to 5min: n/a; > 5min: n/a			Large Beneficial	£ 52,917	Large Beneficial
	Reliability impact on Commuting and Other	Travel times will all benefit from reliability improvements as traffic flows and congestion are reduced	+10% of time saving benefit			Moderate Beneficial	£ 5,292	
	Physical activity	The new facility will include cycle storage facilities and will benefit from high quality surfacing, lighting and surveillance. The new station will receive demand from the local catchment, some of which may be subject to modal shift to active modes from car trips associated with accessing other rail stations previously. However, the primary share of the demand associated with Phase 1 will be undertaking strategic trips that by their very nature place constraints on the use of active modes for accessing the	n/a			Slight Benficial	n/a	
	Journey quality	Traveller care benefits will accrue as the new structure will be clean, modern and contain facilities that will ensure the transport interchange experience is made comfortable. The station will constructed to complement the local landscape but no major impact is associated with traveller views. Traveller stress however will be reduced as modal shift from the private car will reduce frustration, uncertainty and the fear of accidents.	n/a			Moderate Beneficial	n/a	
	Accidents	Reduction in the number of accidents occurring as a result of decongestion / modal shift. However there is no obvious safety issue on the existing surrounding highway network, hence the benefits are limited.	savings of up to 2 accident per year expected given change in vehkm and other benefits			Neutral	n/a	Neutral
	Security	The facility will include lighting, surveillance, secure parking (for both motorised vehicles and pedal cycles) and will have a staffed booking office. The facilities provided will however be broadly consistent with those provided at other rail stations of a similar nature	n/a			Neutral	n/a	Neutral
	Access to services	Improved access between the City of Worcester and London, accounting for intermediate stations at Pershore, Evesham, Oxford and Reading. A 300 space car park will ensuring that access to rail services is significantly improved upon the currently constrained baseline. Other highway users (including bus passengers) will benefit from decongestion, whilst the new facility will be integrated with existing bus services. The station will support development proposals associated with South Worcestershire	n/a			Moderate Beneficial	n/a	Neutral
	Affordability	No material changes to the cost of transport in Worcester, although slight reduction associated with decongestion and improved access to rail services.	n/a			Neutral	n/a	Neutral
	Severance	No material impact as the station will utilise existing rail and road alignments. New pedestrian facilities will be provided, but they will not link to the wider network	n/a			Neutral	n/a	Neutral
	Option values	No new public transport modes or services are included in this scheme, and changes to the road network are minor. Option values are therefore not affected.	n/a			Neutral	n/a	
Public Accounts	Cost to Broad Transport Budget	Costs to local authority include all risk and OB.	Local Fund £14.1m, Central Government £19.2m			n/a	£ 31,606	
	Indirect Tax Revenues	Based on change in vehicle km and reduction in fuel consumption. Reduction in fuel expected due to reduced congestion on the highway network, resulting in a loss in tax.	£4.9m tax loss due to car transfer			n/a	£ 4,879	

Project Governance

Project Management

The project management for the Worcestershire Parkway is based on PRINCE2 principles and the Project Management Handbook for Local Authorities, Version 5: Programme, Project and Change Management. It also considers the Office of Government Commerce (OGC) guidelines for delivering projects.

Specific attention has been given to governance, to provide a clearly defined structure for the role of the Cabinet, Project Board, Project Manager and Project Teams.

Cabinet

Worcestershire County Council's Cabinet has ultimate authority for the project. Following the recent May elections the Cabinet and Cabinet Member responsibilities are yet to be established. These details will be confirmed when the information is available.

The Cabinet meets on a monthly basis. Cabinet reports and recommendations are presented at Cabinet meetings. The Cabinet has ultimate responsibility for project approvals.

Project Board

The Project Board comprises officers with responsibility for the strategic delivery of the scheme as summarised in the table below. The Senior Responsible Owner (SRO) is Peter Blake, Head of Integrated Transport, who also provides the interface with the Cabinet. The Project Manager is Tom Delaney. His role is to oversee the implementation of the scheme and provide the interface with the Project Teams. The Project Board has met regularly and will continue to meet at key milestones throughout the life of the project (typically at 4 week intervals) to ensure Project Assurance objectives are met.

Project Board Members

Name	Title	Responsibility
Peter Blake	Head of Integrated Transport	Chairman. SRO for the project
Tom Delaney	Worcestershire Parkway Transportation Package Manager	Project Manager
Sean Pearce	Head of Corporate Financial Strategy	Section 151 Finance Officer
Steve Harrison	Transport Policy and Strategy Team Leader	Policy and Strategy Advice
Michele Jones	Consultation Officer	Stakeholder and Public Consultation
Nick Yarwood	Commercial Manager	Procurement advice
Alan Moore	Principal Solicitor	Legal advice

Project Manager

The Project Manager manages the project using Prince 2 methods within set tolerances as agreed by the Project Board. He leads the work of the Project Teams and is a member of the Project Board.

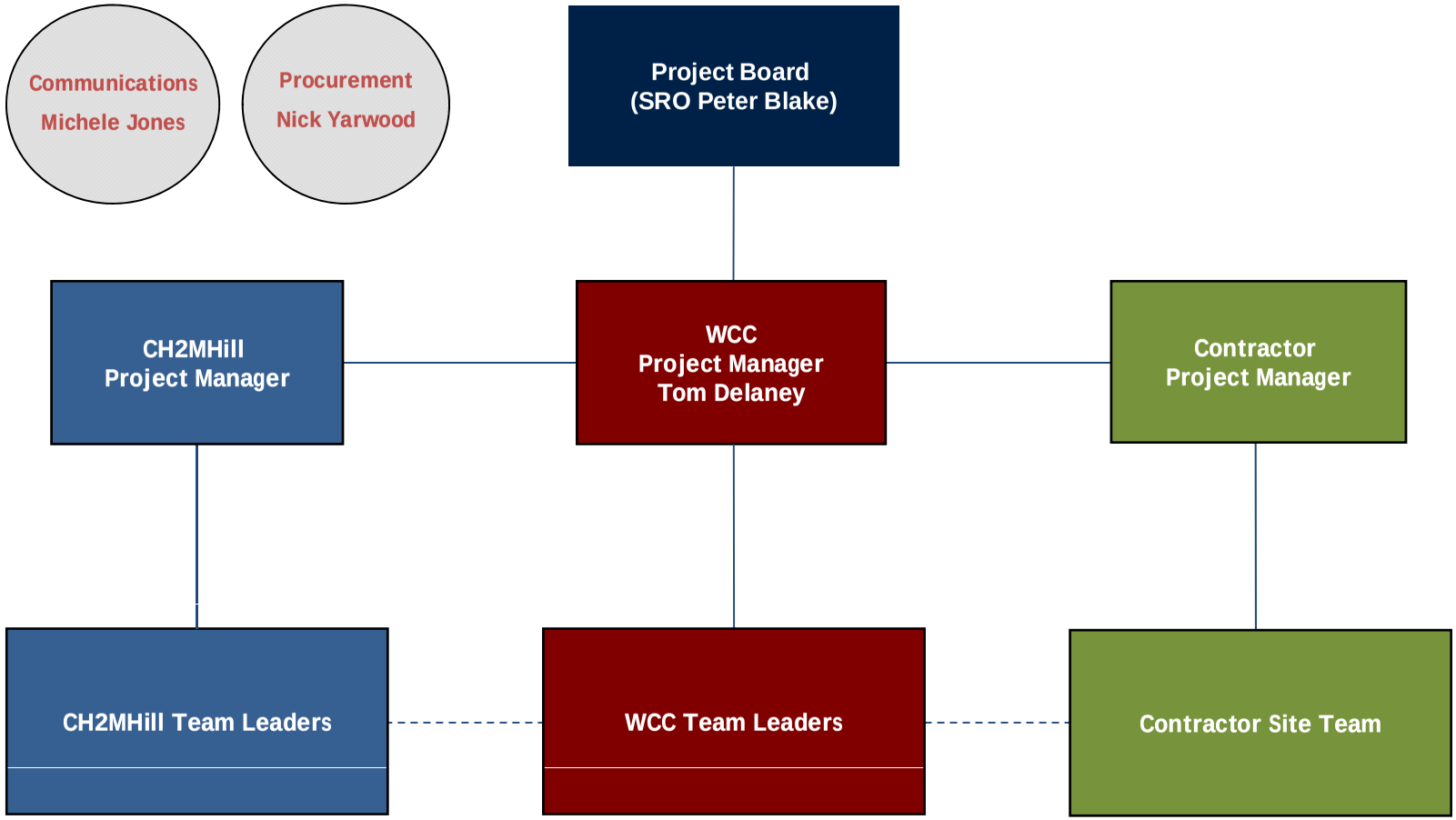
Project Teams

The team consists of a combination of Worcestershire County Council officers and CH2MHill staff. The high level project structure is shown overleaf.

Project Assurance

The Project Board is responsible for Project Assurance, ensuring that the project remains on target in terms of business, user and technical objectives. This includes conducting Gateway Reviews at key stages in the project life cycle to determine whether or not the project can proceed to the next stage. Project Board members receive regular Highlight Reports from the Project Manager to aid them in this process. The scheme has also been subject to continuous Peer Review by the Business, Economy and Community Directorate's Package Panel which includes officers from a range of disciplines including business, user and technical officers.

Worcestershire Parkway
High Level Project Organogram



Worcestershire Parkway Station

Communications Review and Recommendations

May 2013

Find out more online:
www.worcestershire.gov.uk/parkway

worcestershire county council

Contents

1. Introduction

1.1 Project Description

1.1.1 In April 2013, the new Worcestershire Local Transport Body announced funding to provide new transport infrastructure for Worcestershire. The funding is targeted at projects which can be delivered quickly to provide long-term benefits to Worcestershire and its economy.

1.1.2 Worcestershire County Council transport strategy for the county promotes the provision of a new "Worcestershire Parkway" station at the intersection between the Worcester – London (Cotswold Line) and Bristol – Birmingham lines at Norton, east of Worcester. This scheme will:

- *Improve access (particularly by car) to direct rail services from Worcestershire to London, the South West, South Wales, Birmingham and beyond*
- *Significantly reduce journey times to key regional and national destinations*
- *Enable interchange between the Worcester – London (Cotswold Line) and Cross Country services*
- *Benefit the Worcestershire economy and support economic growth as access to and from the county will be improved.*

1.1.3 Worcestershire County Council intends to submit a bid to the Worcestershire Local Transport Body for Worcestershire Parkway Station on 31st May 2013, the deadline for applications.

1.1.4 The new Worcestershire Parkway Station has been designed to provide:

- *A staffed booking office*
- *Toilets, including a disabled toilet facility and*
- *Scope for supporting retail use*

1.1.5 There are plans for up to 500 car parking spaces and the highway designs would include a new roundabout junction from the adjacent B4084 to provide the necessary vehicular access to the station. Cycle parking will be provided along with bus access and kiss and ride (drop off and collect) facilities. The current site has a public right of way over the Birmingham to Bristol Line, this will be maintained by providing a footbridge for pedestrian and cycle access.

1.1.6 The station will be designed to provide a platform on the Cotswold Line, with provision for two further platforms on the Birmingham to Bristol Line and a potential second platform on the Cotswold Line if this line is redoubled in the future.

1.1.7 Access to the platforms will be provided by lifts with stairs alongside. The platforms will all have an adequate number of passenger shelters along with real time information provided throughout.

1.1.8 The exact design and facilities to be provided will be subject to a full public consultation process prior to the planning application submission in Spring 2014. It is anticipated, should the funding bid be successful, that the station could be operating by Spring 2016

1.2 Background

1.2.1 This note has been prepared in response to a request from the Transport Policy and Strategy Team Leader, in April 2013. The brief relates to communications work required up to and beyond the funding bid submission to Worcestershire Local Transport Body.

1.2.2 The purpose of this note is to firstly review any communications relevant to the Worcestershire Parkway project. This would include:

- *Any influencing factors prior to the development of the funding bid proposals;*
- *Key outcomes from the Local Transport Plan 2/3 specific consultation*
- *Any other relevant consultation/research which may further add to the resilience of the bid.*

1.2.3 Secondly, the note aims to:

- *Highlight the strengths & weaknesses of the Bid in terms of public, member, officer (incl. District Council) & key stakeholder support).*
- *Recommend any additional engagement prior to delivery*
- *Recommend a communication strategy*
- *Identify and analyse stakeholders*

2. Influencing Factors in the Development of Bid Proposals

2.1 Introduction

2.1.1 Prior to developing the proposals for the Worcestershire Local Transport Body Bid for Worcestershire Parkway Station, Worcestershire County Council undertook an extensive review of earlier research and consultation. The principle was to use these outputs to test that the Bid is robust in terms of its acceptability with residents and key stakeholders, significantly reducing any deliverability risks in this area.

2.2 Previous Engagement Exercises

2.2.1 Key stakeholders and members of the public were engaged though a range of Engagement activities, in particular as part of the development of the second and third Local Transport Plans (LTP2/3), the South Worcestershire Development Plan, the Worcester Transport Strategy and the Sustainable Travel Town (Choose how you move) research. A summary of these is provided in Table 1.1 below.

Table 2.1- Previous Engagement Exercises

Engagement	Date	Outcome	Description
Local Transport Plan 2	May 2005	Worcestershire Parkway adopted in LTP2 2006	LTP in which Worcestershire Parkway was proposed received 585 public and 27 key stakeholder responses.
Citizens Panel	March 2007	Worcestershire Parkway highlighted to be important	The Citizens panel focused on sustainable travel which received 1251 responses with 12 from District/Parish Councils.
Passenger Transport Best Practice Workshops	Nov 2007	Worcestershire Parkway – vital for passenger transport development for the County of Worcestershire	A series of workshops with key stakeholders and user groups to develop passenger transport (including a rail) strategy.
Choose how you move research	2008	Residents looking for improvement in rail infrastructure and would use facilities and service provided.	4072 travel diaries, 409 including depth interviews to establish travel behaviour.
Worcester Transport Strategy (of which Worcestershire Parkway was a part)	2010	Worcestershire Parkway included in the technical Business Case for the strategy.	Over 1000 responses were received via workshops, exhibitions, web and focus groups.
Local Transport Plan 3	2011	Worcestershire Parkway adopted April 2011	577 responses received.
South Worcestershire	2007-	Worcestershire Parkway	6505 written responses.

Joint Core Straegy	2010	included in the Plan	8476 attendees at exhibitions, events and workshops.
South Worcestershire Development plan Preferred Options	2011 to date	Worcestershire Parkway included in the Plan	Total Comments 9,328 From 1378 Consultees.
Department for Transport, Train Operating company and, Network Rail.	To date		Ongoing engagement .
The South Worcestershire Development Plan - Proposed Significant Changes to 2011 Preferred Options			Total Comments 3,611 From 1908 Consultees.
New Station funding Bid	Feb 2013	Full support from key stakeholders	Over 15 letters of support received from key organisations and political leaders.
Local Mp's and key Stakeholders	To date	Full support received to invest in and develop the parkway proposals	On-going engagement.

2.2.1 The outcomes from this engagement activity have informed the Worcestershire Parkway project by identifying objectives, opportunities and constraints. In all cases they have highlighted public and key stakeholder opinion which is strongly supportive of the project proposals across all participating groups.

2.2.2 Having reviewed the engagement activity, a key strength is the robustness of the key stakeholder involvement undertaken. The results of this activity suggest that stakeholder support is strongly aligned with the project. This is further enforced by a strong political will

2.2.3 This has subsequently led to the adoption of the Worcestershire Parkway project in the County's third Local Transport Plan and its inclusion in the South Worcestershire Development Plan.

3. Pre-Bid Communications Activity

3.1 Recommendations

3.1.1 It is recommended no further public consultation takes place until the project has the appropriate levels of funding in place to facilitate delivery AND has been developed to a level where it can be consulted upon in more detail. A bespoke Consultation Plan will be developed at this stage to plan the delivery of any consultation necessary. A Case Study example of a Consultation Plan is shown in Appendix C..

3.1.2 In terms of other engagement, it is vital to secure bespoke responses from the most beneficial and important stakeholders to underpin the bid submission. It is therefore recommended that a stakeholder specific engagement takes place where the promoter (WCC) would:

- *Present the strengths and weaknesses of the project*
- *Seek to identify and understand the precise reasons as to why stakeholders support the scheme*
- *That any stakeholder reservations are understood and carefully considered, whilst also providing a plan of action to address key concerns and mitigate risk.*
- *Secure significant quantifiable support (or otherwise) for the bid and decide how and if this effects the submission.*

3.1.3 Letters of Support have been secured from the primary stakeholders shown in Table 3.1 for a previous funding application, New Station Fund (NSF), 2013. The Stakeholders listed are aware of the Worcestershire Local Transport Body Bid application.

Table 3.1 - Stakeholder Method/Resource When Desired Outcome

Who	Method/Resource	When	Desired Outcome
WCC leader/Portfolio Holder & Local Member	Meeting Project Manger	January 2013	Signed up to project Letter of support from the Leader
Train Operating Company (First)	Meeting To be delivered within the existing resources of TP&S and SLC	Early February 2013	Signed up to project Support letter (NSF)
Network Rail	Meeting/phone calls To be delivered	January 25th, 2013	Signed up to the phased delivery of the project .

	within the existing resources of TP&S and SLC		Support letter (NSF)
District Councils (Malvern, Worcester, Wychavon) (Chief Executives)	Meeting/phone calls	Feb and March 2013	Support letter (NSF)
Local MPs'	Letter	Feb 2013	Letters of support (NSF)
LEP	Letter	Feb 2013	Letters of support (NSF)
Chamber of Commerce	Letter	Feb 2013	Letters of support (NSF)
Town Councils (Pershore & Malvern)	Letter	Feb 2013	Letters of support (NSF)
Local Strategic Businesses	Letter	Feb 2013	Letters of support (NSF)
Worcester University	Letter	Feb 2013	Letters of support (NSF)

3.1.4 For the purposes of the pre-bid programme, the recommendations also include:

- Completing a high level Stakeholder Analysis (see Appendix B)

4. Post-Bid Engagement

4.1 Proposals

4.1.1 An initial High Level Communication Plan has been developed to continue the dialogue with residents and key stakeholders post bid submission up to investment benefits realisation. A copy is provided in Appendix A.

4.1.2 The Communications Plan will be supplemented by a Consultation Plan as the scheme progresses. The purpose of this is to focus attention on the specific requirements and outcomes of a consultation process, which are invariably very different from those of generic communication initiatives. A typical example of a Consultation Plan is shown in Appendix C.

4.1.3 The proposed nature and frequency of communication with stakeholders will vary depending on their role. Information about the method of communication is provided and includes:

- *Active input or support for scheme to succeed;*
- *Regular Liaison with Key Stakeholders;*
- *Liaison with the District Councils*
- *Consultation to inform detailed design to planning ;*
- *Feedback on project at key dates during the scheme development*
- *Dissemination of Post Opening Project Evaluation study, One Year After and Five Years After studies.*

Appendix A: Worcestershire Parkway High-level Communications Plan

Background

The new Worcestershire Parkway Station has been designed to offer:

- *A staffed booking office*
- *Toilets, including a disabled toilet facility and*
- *Scope for supporting retail use*

There are plans for up to 500 car parking spaces and the highway designs would include a new roundabout junction from the adjacent B4084 to provide the necessary vehicular access to the station. Cycle parking will be provided along with bus access and kiss and ride (drop off and collect) facilities. The current site has a public right of way over the Birmingham to Bristol Line, this will be maintained by providing a footbridge for pedestrian and cycle access.

The station will be designed to provide a platform on the Cotswold Line, with provision for two further platforms on the Birmingham to Bristol Line and a potential second platform on the Cotswold Line if this line is redoubled in the future.

Access to the platforms will be provided by lifts with stairs alongside. The platforms will all have an adequate number of passenger shelters along with real time information provided throughout.

The exact design and facilities to be provided will be subject to a full public consultation process prior to the planning application submission in Spring 2014. It is anticipated, should the funding bid be successful, that the station could be operating by Spring 2016

This Communication Plan has been put together to pinpoint the communication channels that should be utilised to ensure all relevant parties, both internally at Worcestershire County Council and residents, businesses and other key stakeholders involved in the project, are kept informed should funding for the Worcestershire Local Transport Body Fund be forthcoming.

Aims and objectives of the Communications Plan

Once funding has been secured and during the development to GRIP Stage 3, an individual Consultation Plan and an enhanced Communication Plan will be drawn up (see an example of a Consultation Plan from another project at the end of this document in Appendix F). The purpose of these documents is to outline how the following aims and objectives are met:

- *To increase the number of people becoming aware of the station proposals*
- *To ensure information is released in a timely and appropriate manner ;*
- *To improve member and key stakeholder involvement with regular dissemination of information as the scheme progresses;*
- *To increase traffic or 'hits' on the dedicated Worcestershire Parkway website;*
- *To increase the amount of public participation and amount of feedback received through public engagement exercises from key stakeholders, residents and businesses about the*

effectiveness of the implementation of Worcestershire Parkway Station. This will serve to provide one of the baseline measurements required to determine the success of the project post-delivery and will also help underpin any future funding applications for further phases.

Key Messages

It will be vitally important to keep all relevant parties informed about the progress of the first phase of the Worcestershire Parkway project, in a timely and appropriate manner that is suitable for their level of involvement.

Certain key messages will be communicated as the scheme is developed and will be included when information is circulated to target audiences through the channels identified. For example, when the Station receives planning permission.

However, certain key messages will run throughout the process. These will be that the Worcestershire Parkway is being delivered to:

- *Improve access by rail to key destinations and markets outside and within Worcestershire, thereby supporting economic growth*
- *Encourage investment into the County*
- *Reduce congestion in and around the County of Worcestershire;*
- *Improve the passenger transport options available;*

Target Audiences

The target audiences identified to receive communications include:

- *Residents*
- *Key Stakeholders – including network Rail, rail operators statutory stakeholders, regional bodies, District and Parish councils, developers etc*
- *Identified User Groups - including Bus Users UK, Passenger Focus, Disability Groups etc.*
- *County Councillors/Local Members*
- *MP's*
- *Businesses LEP/Chamber of Commerce*
- *Local Media and Trade Press*
- *Worcestershire County Council Staff*
- *Strategic Businesses*
- *Worcester University*
- *Visitors to the Worcester area*
- *County Councillors in surrounding areas (Pershore, Malvern, Evesham)*
- *Bus operators*

Risks

Risk	Likelihood H=High M=Medium L=Low	Impact H=High M=Medium L=Low	Action to be taken
Negative perception of past highways/transport projects (affects public confidence)	H	H	Consistent and clear key messages communicated across all channels – both targeted (newsletters for residents and traders) and general (media releases, Social media)
Public unaware of why the works are taking place and the reasons for delays on access roads in the short-term	M	H	Consistent and clear key messages across all channels and regular updates communicating the benefits in terms of travel journey and local economy
Comms problems due to key WCC staff or members leaving/becoming unavailable	M	H	Clear and easy-to-follow Communications Plan that can be used by new /covering staff and identifies all key contacts.

Key dates/Timeline

- *To announce the successful stages of the funding application*
- *To actively engage all relevant parties in scheme specific consultation*
- *To feedback the results of the scheme specific consultation*
- *To inform/relationship manage during scheme implementation*
- *To collate feedback post implementation*

Date	**what**	**who**
May 2013	Briefing on funding application	Members/Councillors WCC Staff MP's Key Stakeholders as identified in Communications review Table 1.1

Spring to Autumn 2013	Scheme Development: For example: Identification Appraisal Preliminary Appraisal Outline Design	Project Team Members/Councillors WCC Staff Key Stakeholders
To be advised by Network Rail	Announce Funding Approval	All Target Audiences
Autumn 2013	Outline design Scheme consultation (Phase 1)	All Target Audiences
Spring 2014	Planning: Consultation	All Target Audiences
April 2015 to April 2016	Construction Community engagement and information dissemination	All Target Audiences
May 2016	Formal Opening	All Target Audiences

Communication Channels

The communication channels available and how they will be utilised to target audiences are included in the table below.

Who	Method
Internal Staff	SID news articles/homepage features – staff intranet system potentially accessed by 4,000 staff (approx) on a daily basis • Meetings and presentations • Local media • County Hall entrance display • County Hall plasma screens Visitors to Worcester area • WCC website – www.worcestershire.gov.uk/parkway • Local tourism bodies – e.g Visit Worcester, Destination Worcestershire • Posters

	• Leaflets • Public Exhibitions/Events
Elected Member/MP's	One-to-one meetings with local county councillors • Infonet – weekly briefings by email • Meetings/presentations as the scheme progresses • Directors Bulletin – weekly briefings by email • County Hall plasma screens
Local Businesses	Worcestershire County Council Website www.worcestershire.gov.uk/parkway with a link to our Business pages www.worcestershire.gov.uk/business • WoW • Local media – including press, radio and television • Worcestershire LEP/• Chamber of Commerce • Leaflets and posters (where appropriate) • District Council residents' magazines and meetings • Parish Newsletters/meetings • Exhibitions • Presence at appropriate events • Worcestershire Hub and County Hall Plasma Screens • Webcasting and podcasting of information on WCC website • Social Media – Twitter, Facebook, mobile phone applications
Residents/Stake holders	Worcestershire County Council (WCC) Website www.worcestershire.gov.uk/wts • WoW – Word on Worcestershire magazine • Local media – including press, radio and television (including wider Worcestershire media as well as those in Worcester) • Leaflets and posters (where appropriate) • District Council residents' magazines and meetings • Parish Newsletters/meetings • Public Exhibitions • Presence at appropriate public events • County Hall entrance display

	• Worcestershire Hub and County Hall Plasma Screens • Webcasting and podcasting of information on WCC website • Explore Social Media – Twitter, Facebook, mobile phone applications District Council Comms channels

Consultation and Communications Budget

£25,000

Measurable Consultation and Communications Targets

- *Number of hits/visits to website following targeted campaigns;*
- *Number of comments, views submitted or questions asked by*
- *Residents/businesses/stakeholders participating during specific public consultation exercises;*
- *Good cross section of participants in terms of demographics, age, gender etc.*
- *Number of stories/articles published in the media*
- *Number of visitors to public exhibition/public events*

Lead contacts

Michele Jones, Transport Policy & Strategy Officer

Nicky Fletcher – Transport Consultation Officer

Worcestershire Parkway – Project Team

BEC Marketing & Communications Account Manager

Portfolio Holder for Infrastructure and the Economy

Appendix B: Key Stakeholder Analysis for Worcestershire Parkway

Organisation	Consulted	Relationship to Scheme	Positive to Scheme	Other Issues	Likely Objector	Letter of Support Received
Worcestershire County Council	Yes	Scheme Promoter/Highways Authority	Yes	No	No	Yes
District Councils	Yes	Local Planning Authorities	Yes	No	No	Yes
Town Councils	Yes	Third Tier Local Authority	Yes	No	No	Yes
Parish Councils	Yes	Third Tier Local Authority	Yes	No	No	Yes
Local Members of Parliament	Yes	Representative of local voters to Parliament	Yes	No	No	Yes
Local Enterprise Partnership	Yes	Promotes and supports economic growth and regeneration in Worcestershire	Yes	No	No	Yes
Chamber of Commerce	Yes	Ensures that planning and infrastructure investment support business needs	Yes		No	No
MEP	Yes	Representative of local electorate at a European level.	Yes		No	No
Federation of Small Businesses	Yes	Ensures that planning and infrastructure investment support business needs	Yes	No	No	Yes
South Worcs. Devt Plan - Project Team	Yes	To ensure that land use development and infrastructure requirements are fully integrated.	Yes	No	No	Yes
Worcester Regulatory Services	Yes	Planning Consultee	Yes	No	No	Yes
Network Rail	Yes	Infrastructure provider	Yes	No	No	Yes
English Heritage	Yes	Planning Consultee				No
Environment Agency	Yes	Planning Consultee				No
Highways Agency	Yes	Planning Consultee	Yes	No	No	No
Natural England	Yes	Planning Consultee				No
University of Worcester	Yes	Large trip attractor / employer	Yes	No	No	Yes
Worcester Bosch	Yes	Large trip attractor / employer	Yes	No	No	Yes
South Worcestershire Strategic Businesses	Yes	Ensures that planning and infrastructure investment support business needs	Yes	No	No	
Train Operators	Yes	Passenger transport provider	Yes		No	No
Bus Users UK	Yes	User representation body	Yes		No	No
Passenger Focus	Yes	User representation body	Yes		No	No
General Public	Yes	Currently live or work around the area that may be affected by works				No

Appendix C: Example of a Consultation Plan: Bromsgrove Railway Station

DETAILED PLANNING OF CONSULTATION ACTIVITY

Bromsgrove Railway Station

TASK	ACTION / EVIDENCE
What specifically is the decision being sought?	To inform on the proposals and determine how to progress the various elements of the Worcestershire Local Transport Body and related measures
T otal Budget Estimate for this consultation exercise (using higher distribution numbers and including all contingency)	£10,000
Has funding been identified for this consultation? – state from where	10 k of this towards the consultation programme from central project funding.

TASK	ACTION / EVIDENCE
Staff Resources	Ian Frostick – Project Manager CENTRO Ian Walters – CENTRO Ian Saunders (Architect) David Brazier – Principal Commissioner CENTRO Matt Finn – Centro Marketing Stephen Harrison – WCC Hayden Thomas (Motts) David Balme – Project Manager Michele Jones – WCC Consultation Officer Nicky Fletcher - WCC Andy Baker – Sustainable transport Manager Tom Delaney – WCC Rail Paul Whittaker - Press
Is this a strategic consultation exercise?	Yes Cabinet submission required.
Cabinet Member with responsibility	John Smith/Simon Geraghty - on-going briefings

TASK	ACTION / EVIDENCE
Have we entered this into the Cabinet Forward Plan?	Yes
When does this exercise need to be completed?	March 2013
WHAT ARE YOU CONSULTING ABOUT	
Background	Worcestershire County Council and Centro are jointly funding a new railway interchange in Bromsgrove to replace the existing station. This is being done through partnership with the Department for Transport. The existing station does not provide: • Facilities for disabled users • Does not meet current standards in terms of security, lighting • Does not provide the facilities that rail passenger expect and does not allow train companies to develop new services to and from Bromsgrove The existing station also needs to be closed and moved further south to enable Network Rail to electrify the line from Barnt Green to Bromsgrove. This strategic project will allow the train companies to increase the frequency of the rail service between Bromsgrove and Birmingham. Improved facilities and better integration with local bus services will make it more attractive for people to use the train to travel between Bromsgrove and Birmingham, reducing congestion, carbon emissions and making it easier to access the town. This will make the local

TASK	ACTION / EVIDENCE
What is specifically being consulted about?	area more attractive for businesses and will encourage job creation in the Bromsgrove area. What is proposed? The Worcestershire Local Transport Body will include: • A car park with approximately 350spaces designed to current standards in terms of security, lighting, ticketing, customer facilities and information. Parking charges will be similar to today. • A modern station building with toilets, ticket desk and a retail facility. • Four platforms connected by a covered footbridge and lifts. This will be designed so that all people can fully access the station. • Secure covered cycle storage, motor cycle parking, electric car parking and charging points. • Direct access to local bus services through a bus: rail interchange. • A taxi rank and drop off / pick up point. To improve access and the local road network, a number of changes are proposed: • Alterations to New Road to remove parking from the west side to improve bus access to the Worcestershire Local Transport Body. • New access road to the station directly from Stoke Road. • Restrictions on parking on streets close to the station What areas will be affected? Residents and businesses in the areas of Aston Fields and Breme Park are likely to see some changes to the local road network to access the station. This is because of higher expected traffic flows to

TASK	ACTION / EVIDENCE
	the Worcestershire Local Transport Body. There will be no access to the station or car park from South Road. The only access to the station or car park from Garrington Road will be for cyclists or pedestrians. On street parking management will be significantly improved in the local area, which will benefit residents and businesses. New Road (between Ladybird Inn and Existing Station) New Road will continue to be the main approach to the railway station and will need to accommodate the forecast increase in road traffic and bus services. For these reasons it is proposed to remove the existing build out on New Road close to the Ladybird Inn and the existing 'pay and display' on street car parking between the Ladybird Inn and the existing station car park. A No Waiting At Any Time restriction is proposed. The existing station car park will be retained for use by visitors to local shops and the existing car parking on the Co-op side of New Road will also be retained. South Road There may be some changes to South Road, dependent on the outcomes of local consultation, but the existing pedestrian connection to Garrington Road will continue to be available. Stoke Road The existing access road from Stoke Road to Busy Bees Nursery will be expanded to form a second entrance and exit to the Worcestershire Local Transport Body. This will include provision of a footpath alongside the new access road. For safety reasons, one limited waiting bay on the south side of Stoke Road will need to be removed. This will remove a possible obstruction to visibility for drivers leaving the Worcestershire Local Transport Body and will assist with traffic flow along Stoke Road. Garrington Road There are no changes planned to Garrington Road. It will not be possible to drive from Garrington Road into the Worcestershire Local Transport Body, however direct access will be provided for

TASK	ACTION / EVIDENCE
	cyclists and pedestrians. Parking Controls To protect the quality of life for people living close to the Worcestershire Local Transport Body, it is proposed to introduce new parking management in the Aston Fields and Breme Park areas. There are three options for this currently. These are described below: • Controlled Parking Zone – parking would not be allowed on the streets within the zone between certain times expect for permit holders. For example between 08:00 and 17:30 parking would not be permitted except for those holding permits. • Residents Parking Zone – parking would not be allowed on the streets within the zone, except for residents with permits. • Waiting Time Limits - Parking would be allowed on the streets within the zone, but only for short periods during certain times of the day. Once the preferred approach has been agreed, then a more detailed exercise will begin to decide the exact scope of the proposed parking controls. These will be enforced by Bromsgrove District Council, once Civil Parking Enforcement is fully in operation in the Bromsgrove District. What other impacts are there? Environmental Impact Station site The station is to be built on the site of a former oil terminal. Remediation will be undertaken to remove contaminants from the site before construction begins. A full Environmental Impact Statement is being produced. Ecological and Arboriculture (tree) surveys are being undertaken to establish the requirements for dealing with protected

TASK	ACTION / EVIDENCE
Benefits	species such as badgers and bats. The station building has been designed to reduce its environmental impact. Existing Trees and Shrubs There will be a need to remove some of the trees and bushes that have grown on the disused site especially close to Garrington Road. Lighting The station platforms and car park will be lit during hours of darkness. The lighting design has considered how to reduce light spilling into surrounding areas. The lighting will also be reduced when the station is not operating. Noise Levels Noise levels are currently being investigated, however the change of use will bring changes to noise levels and steps will be taken to manage the level of change as far as possible. Existing Station The existing station will remain in use until the Worcestershire Local Transport Body opens. It is not expected that passengers will notice any change to their journeys until the Worcestershire Local Transport Body is complete. The existing station car park is operated by Bromsgrove District Council and they intend to continue to operate the car park for use by local people visiting local businesses. During Construction We recognise that there may be some inconvenience to local people and businesses during construction. We will seek to minimise this disruption as much as possible. There will need to be access for construction traffic bringing plant and materials to site. Some work, principally construction of the platforms and the new footbridge will need to take place at night and during weekends to minimise the disruption to train services. We will provide information in advance of

TASK	ACTION / EVIDENCE
Funding	when this is expected to take place. Provides the necessary infrastructure for increased train service in association with Network Rail Electrification Project Provides longer platforms to accommodate longer trainsProvides increased car parking to Park Mark standard. Allows for future electrification of Barnt Green to Bromsgrove Development Costs £1.25m, split 50/50 between Centro and WCC Project Costs – subject to confirmation of the land remediation costs and the overall estimate is currently under review by Atkins and Network Rail and so is subject to change.. The cost of the station building is about £487,000 and the overall construction cost is around £15m but i suggest we do not provide this until the work currently underway by Atkins and Network Rail is complete. This should be available by the end of next week. but still needs to include the caveat that the cost for the land remediation is only indicative as this point in time. The construction costs are split 70% Centro, 30% WCC
What are the constraints?	• Environmental risks • To continue to ensure member/political support. • Public opposition

TASK	ACTION / EVIDENCE
What is open to change and what is not? This needs to be clearly set out in our consultation material	• Set design for junction so few options for modification • Availability of alternative car parking It will be made clear to the participants that a 'do nothing' scenario will not be an option. It is unlikely that modifications can be made to the junction as this depends upon a technical spec – however there will be options based on car parking alternatives. Ensure that the latter point is clearly stressed in the consultation material
Have we explained our objectives to all staff involved?	No A general briefing is planned for w/c 15th October, 2012. To be set up
Do staff have the necessary skills to carry out this consultation?	Yes. Staff/consultants have the appropriate skills to carry out the consultation

TASK	ACTION / EVIDENCE
How will our objectives to consultees be set our?	To ensure that objectives, opportunities and constraints are clear and expectations are managed, all consultation material will include: Clear statement of objectives Information on the issue that is being consulted about. any constraints and a clear explanation of choices /opportunities for influence How views will be taken account by whom and by when A contact point The consultation timescales Date responses needed by How feedback will be provided Where to find further information Opportunities for people to evaluate our consultation, comment / complaint on process
DECIDING WHO TO CONSULT	
Who are the stakeholders? .	See Excel Spreadsheet

TASK	ACTION / EVIDENCE
How will local councillor/s be informed	Local Councillors: Simon Geraghty – 3rd September Local WCC councillors 14th September District Councillors – Briefing Note Savid Javid MP: Briefing Note.
What opportunities are available to local councillors to be involved in this consultation?	To ensure that their community leadership role is recognised and met the local members and Cabinet Member with Responsibility will be asked to attend the local Community events during October 2012. The Cabinet Member with responsibility will be asked to 'Forward' the consultation material (to agree with Centro)
Consider now how you will deal with conflicting views from stakeholders / weight the views you receive	The views of the members will be given relevant weighting as they represent the residents within their area (including the hidden minorities or people who will not speak out). User Groups also represent many people and will be weighted accordingly.

TASK	ACTION / EVIDENCE
Can you use existing groups and forums for your consultation?	Highways Forum (26th September) Accessibility Group Disability Group (Fiona Scott) Any from Centro
Was this consultation identified in your Directorate Performance Plan?	Yes
When do the results of your consultation need to be available in order to inform our decision?	March 2013
Are there any opportunities for joining up with other consultations during your timeframe	No. This consultation process will be specific and cannot be linked to another exercise.
Resources Financial	The costs of the exercise will be £10k for project management, and production and distribution of materials etc. The costs of the exercise will mostly be for the printing and distribution of materials. Design work £1,000 Printing leaflets and questionnaires: £2,000

TASK	ACTION / EVIDENCE
	Distribution £1000 (TBA in-house) Event material printing £500 (TBA Halcrow) Board Hire £200 Bus Hire £200 Evaluation of questionnaires and responses £1,100 Advertisement costs £500 Attendance by technical staff at events £2,000 Area identification £500 Contingency £1,000 Total £10,000
Timelines	• Member Consultation: September 2012 • Public Consultation: January 7th - to March 17th 2013 Public Exhibitions: Exhibitions will be held at the following locations on Tuesday 15th January 2013 , Wednesday 16th January , Tuesday 29th January and Wednesday 30th January 2013.

TASK	ACTION / EVIDENCE
	Bromsgrove Station 7am – 9:45am and 4pm – 6pm High Street, Bromsgrove 10:30am – 3:30pm • Planning Application Submission May 2013 • Planning approval September 2013 • Outline Design finalised May 2013 • Tender documentation issued for design and build contract October 2013 • Start of construction July 2014 • Worcestershire Local Transport Body Opens/ Old Station closed May 2015
How long before our exercise starts do you plan to publicise your consultation?	Early October 2012
How long will we give consultees to respond to your consultation? .	12 weeks
Additional time build in:	• Analyse the results and prepare the necessary reports – late Dec/early Jan 2013 • Allow results to be considered by Project Team – Jan 2013 • Scheme alignment by: Jan 2013 • Provide feedback (plus prepare any material): March 2013 • Evaluate the consultation: March 2013

TASK	ACTION / EVIDENCE
HOW TO CARRY OUT YOUR CONSULTATION	
Are we using external consultants?	Not directly, although: Motts will support the exhibitions Carter Graphics will design the exhibition material
What methods will we use to carry out your consultation?	To enable a quantitative and qualitative approach • One to one meetings and presentations (members) • Briefing notes • Group presentations (Highway Forum/Access Groups) • Leaflet and Questionnaire (Public/users) – Centro/WCC 2,500 copies 1700 to be distributed to households within the buffer zone (arrange personal delivery) and also key locations libraries etc. Arrange pull up to promote scheme NF for w/c 8th Oct • Localised advertising (for events).- See above • Media/Press – Discuss PW • Posters: WCC- Poster design/distribution plan NF – see above • A Boards (centro) • Website (list on Consultation Portal) – WCC – review with new copy • Exhibitions (bus from Centro) – Display Boards – WCC/ Rota required NF WCC • Letter to key stakeholders (see list) WCCNF • Reserve an Andy Loo – WCC NF

TASK	ACTION / EVIDENCE
Survey/Questionnaire	Make Contact with Research and Intelligence – book in time to discuss and formulate September 2012
Set out in an accessible way the main information and competing arguments relevant to whatever options are possible?	Leaflet/display board/web/questionnaire/poster copy Proposed site plan 1 Car park visual x 1 Building visual x 2 Junction proposals x 1 Any constraints and a clear explanation of choices /opportunities for influence How views will be taken account by whom and by when A contact point A data protection Statement The consultation timescales Date responses needed by How feedback will be provided Where to find further information Reference to the councils good practice principles Opportunities for people to evaluate our consultation, comment / complaint on process

TASK	ACTION / EVIDENCE
We must include a Data Protection Act statement on your consultation material – has this statement been included?	Yes – see above
Do we need to translate your material to accessible formats?	Check area
Feedback	Feedback will be provided initially via letter and a report of the consultation process and findings. The results will also be available on the Web and via Consultation Portal. All respondents will be entered on a date-base for future updates as the project progresses.

TASK	ACTION / EVIDENCE
ANALYSING THE RESULTS	
How will you analyse the data that you collect?	Quantitative questionnaires will be coded internally and possibly outsourced for imputing. The information from that process will be analysed internally. Qualitative results will be evaluated by matrix according to comment where possible and via minutes of meeting and written responses.
SEND THIS PLAN TO YOUR MANAGER / CONSULTATION COMMISSIONER FOR APPROVAL – ONCE APPROVED SEND THE DETAILS OF THIS CONSULTATION TO THE PUBLIC SITE OF THE ASK ME CONSULTATION PLANNER AND FINDER	

WORCESTERSHIRE COUNTY COUNCIL EQUALITY IMPACT ASSESSMENT DESKTOP SCREENING ANNEX 10

This exercise is not an Equality Impact Assessment (EIA). It is a desktop screening exercise designed to establish if you need to carry out an EIA. When completing the screening please use plain English avoiding the use of acronyms or jargon. Any documents referred to should be attached to this screening form.

Remember, throughout this exercise the term 'policy' (or 'policies') is used as shorthand for 'policies, practices, activities, strategies, plans, projects, procedures, functions and protocols'. It therefore needs to be interpreted broadly to embrace the full range of functions, activities, plans and decisions for which the County Council is responsible.

For help completing this desktop screening, please refer to the County Council's EIA Guidance document available on SID.

Part One: basic information needed to identify the policy and prepare for screening

1.1	Directorate and Section/Unit:	*Business, Environment and Community Directorate* *Integrated Transport Unit*
1.2	Title or brief description of the policy being screened:	*Worcestershire Parkway – Outline Business Case*
1.3	Screening by:	*Stephen Harrison – Transport Policy & Strategy Team Leader*
1.4	Date of screening:	*20/5/3013*
1.5	Related policies/functions:	*No.*
1.6	To which section of the Directorate or Corporate "business/service plan" does this relate?	*The Worcestershire Parkway scheme is identified in the Worcestershire LTP3 as one of the County Council's "Major Schemes"*
1.7	Is this a new or existing policy?	*This scheme relates to the delivery of an existing policy.*
1.8	Does the policy affect service users, employees, the wider community, or a combination of these?	*Yes, this scheme is likely to significantly enhance accessibility to inter-city rail services and the national and international business, employment and other opportunities served by the Worcester – Oxford – Reading - London services and by Cross Country*

		(South West/South Wales – Birmingham – North West/North East) services which currently bypass Worcestershire. It will also provide an alternative to the car for journeys to help to reduce congestion on the Highways Agency Strategic Road Network. The scheme will also support the growth set out in the South Worcestershire Development Plan.
1.9	What are the planned outcomes for this policy?	*Assessment of the Worcestershire Parkway scheme has shown that it will:* • *Encourage economic growth and inward investment (by improving access to key regional, national and international markets* • *Generate approximately £18 million of additional GVA for the Worcestershire economy per year* • *Generate approximately 1,100 jobs as a result of the greater accessibility to key demand and business markets, notably London and south-east England*
1.10	Who is formally responsible for the **delivery** of this policy? If different, who is responsible for **leading** on the delivery?	*Worcestershire County Council (BEC, Integrated Transport Unit) will be formally responsible for the delivery of this scheme. As this is a third party rail scheme, WCC are and will continue to work with Network Rail (NR), Train Operating Companies (TOC) and the Department for Transport in planning and undertaking the delivery of this scheme. Use is and will be made of in-house, NR and TOC resources as appropriate.*
1.11	What (if any) previous consultation has been carried out for this policy? Who was consulted and when?	*This scheme was previously consulted upon as part of the Worcestershire LTP3 process, which concluded in favour of construction of this scheme. This consultation took place in late 2010. The LTP3 was formally adopted by Worcestershire County Council in February 2011.*
1.12	Is equality monitoring in place for this policy?	*No, not yet, although consideration of this is recommended if the scheme progresses to detailed design stage.*

Part Two: The purpose of the following exercise is to assess the potential relevance of the policy in the lives of staff and/or residents who have one or more of the following "Protected Characteristics":
Age, Disability, Gender Reassignment, Marriage/Civil Partnership, Pregnancy/maternity, Race, Religion/Belief, Sex and Sexual Orientation.

The questions in this section ask you to consider factors you will need to take into account in making your decision. The answers you provide will help you determine whether you will need to carry out an Equality Impact Assessment.

		Yes	No	Details and comments
2.1	Could this policy have a significant impact on service delivery or other aspects of daily life for people who have any of the Protected Characteristics listed above?	Yes		*The delivery of this scheme is likely to significantly enhance access for all (including staff/residents who have protected characteristics) to the employment and other opportunities that can be accessed by the Worcester – Oxford – Reading - London services and by Cross Country (South West/South Wales – Birmingham – North West/North East) services which currently bypass Worcestershire.*
2.2	Does the policy involve a significant commitment, or reduction, of resources?	Yes		*This scheme will require identification of significant additional funding in order to enable this scheme to be delivered.*
2.3	Does the policy relate to an area where inequalities are already known to exist?		No	*Worcestershire (and more specifically, South Worcestershire) currently benefits from a network of highways, local passenger transport services, footpaths, bridleways and cycleways which provide accessibility to a wide range of local services and facilities. The provision of the proposed scheme will be linked to this network and will further enhance accessibility.*

2.4 Is there any evidence of potential or actual unplanned variations in the participation levels or use of the policy between different groups (Existing policies only)?

Characteristic	Yes	No	Details, including what information you have based your answer on
Age		No	CENSUS 2011 - Age Profile of the Population within 30 minute drive time of Worcestershire Parkway Station Analysis has been undertaken of CENSUS 2011 data for the population within 30 minutes drive time of the proposed Worcestershire Parkway station. The analysis of age groups below shows that Parkway will provide access to employment opportunities for the working age population (approx 188,054 aged 16-64) within the catchment area. Worcestershire Parkway would have a positive impact for all age groups in terms of access to employment, training

<table>
<tr><td></td><td></td><td></td><td>and social opportunities within and beyond Worcestershire.

<table><tr><th rowspan="2">Census 2011: Age Profile</th><th colspan="2">Parkway 30 min Drivetime</th></tr><tr><th>Number</th><th>Percent</th></tr><tr><td>All Residents</td><td>299,534</td><td>100%</td></tr><tr><td>Aged 0-17</td><td>61,082</td><td>20%</td></tr><tr><td>Aged 18-24</td><td>23,977</td><td>8%</td></tr><tr><td>Aged 60-plus</td><td>79,209</td><td>26%</td></tr><tr><td>Aged 65-plus</td><td>58,187</td><td>19%</td></tr><tr><td>Aged 75-plus</td><td>27,643</td><td>9%</td></tr><tr><td>Aged 85-plus</td><td>8,305</td><td>3%</td></tr><tr><td>Total</td><td>258,403</td><td>86%</td></tr></table></td></tr>
<tr><td>Disability</td><td></td><td>No</td><td>CENSUS 2011 provides information on Economically Inactive, Long Term Sick or Disabled statistics. The analysis below shows the number of Worcestershire Residents within a 30 minutes drive time of Parkway Station

<table><tr><th rowspan="2">Census 2011: Long Term Sick/Disabled</th><th colspan="2">Parkway 30 min Drivetime</th></tr><tr><th>Number</th><th>Percent</th></tr><tr><td>Economically Inactive; Long-Term Sick or Disabled</td><td>6,683</td><td>3.1%</td></tr></table>
Analysis has also been undertaken of ACORN data for the population within 30 minutes drive time of the proposed Worcestershire Parkway station. Worcestershire Parkway would not impact on this group in a disproportionate way; rather Parkway would provide benefits for this group to access employment, training and social opportunities.

<table><tr><th>ESA and Incapacity Benefit (2011)</th></tr><tr><td>9,120</td></tr></table></td></tr>
<tr><td>Gender reassignment</td><td></td><td>No</td><td>Although no statistical information on Gender Reassignment is included in the available data, a document has been identified entitled "Commissioning Policy and Referral Guidelines for Gender Dysphoria Services and Gender</td></tr>
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<tr>
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<td></td>
<td>Reassignment Surgery in Adults" authored on September 2011 on behalf of the South Worcestershire Clinical Commissioning Group, Redditch & Bromsgrove Clinical Commissioning Group and Wyre Forest Clinical Commissioning Group. This document uses national statistical estimates to assume that Worcestershire, with a population of 570,695, could expect to see a prevalence of 11 people per annum presenting with Gender Identity Disorder (Gender Dysphoria). The Worcestershire Parkway catchment areas has a population of 298,796 (2011 CACI Acorn data) so using the above statistics, approximately 6 persons in the catchment could present with Gender Identity Disorder per annum. This group is likely to require access to national healthcare providers in order to access gender reassignment surgery/therapy, whilst pursuing the gender reassignment process. It is highly unlikely that the proposed scheme will result in a material change to accessibility to these specialist healthcare services, since alternative routes already exist.

It is not considered that the proposed Worcestershire Parkway will impact on this protected group in a disproportionate way.</td>
</tr>
<tr>
<td>Marriage/Civil Partnership</td>
<td></td>
<td>No</td>
<td>Census 2011 data has been collated for the catchment of Single, Married or those within a Civil Partnership whom are within a 30 minute drive time of Worcestershire Parkway. Numbers of persons who are married or in a civil partnership are similar to those across Worcestershire.

<table>
<tr><th rowspan="2">Census 2011: Relationship Status</th><th colspan="2">Parkway 30 min Drivetime</th></tr>
<tr><th>Number</th><th>Percent</th></tr>
<tr><td>Single (Never Married or Never Registered a Same-Sex Civil Partnership)</td><td>72,537</td><td>29%</td></tr>
<tr><td>Married</td><td>125,971</td><td>51%</td></tr>
<tr><td>In a Registered Same-Sex Civil Partnership</td><td>374</td><td>0%</td></tr>
<tr><td>Separated (but Still Legally Married or Still Legally in a Same-Sex Civil Partnership)</td><td>5,330</td><td>2%</td></tr>
<tr><td>Divorced or Formerly in a Same-Sex Civil Partnership which is Now Legally Dissolved</td><td>23,587</td><td>10%</td></tr>
<tr><td>Widowed or Surviving Partner from a Same-Sex Civil Partnership</td><td>18,442</td><td>7%</td></tr>
</table>

It is not considered that the proposed Worcestershire Parkway impact on this protected group in a disproportionate way.</td>
</tr>
<tr>
<td>Pregnancy/maternity</td>
<td></td>
<td>No</td>
<td>Persons who belong to the pregnancy/maternity protected group are likely to require access to specialist healthcare services. Since access to these services is currently provided using the existing highway network, it is unlikely that the provision of a new railway station will have a material impact on access to these services for this group.</td>
</tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>Therefore, it not considered that the proposed Worcestershire Parkway will impact on this protected group in a disproportionate way.</td></tr>
<tr><td>Race</td><td></td><td>No</td><td>Available data for the catchment area has been analysed and shows that the majority of the population is White, whilst other groups form a smaller percentage of the population. The mix of ethnicities is broadly similar to the Worcestershire average.

<table><tr><th rowspan="2">Census 2011: Ethnicity</th><th colspan="2">Parkway 30 min Drivetime</th></tr><tr><th>Number</th><th>Percent</th></tr><tr><td>All White</td><td>287,687</td><td>96%</td></tr><tr><td>All Mixed</td><td>3,397</td><td>1%</td></tr><tr><td>all Asian/Asian British</td><td>6,957</td><td>2%</td></tr><tr><td>All Black/Black British</td><td>970</td><td>0%</td></tr><tr><td>All Other Ethnic Groups</td><td>523</td><td>0%</td></tr></table>
The proposed construction of Worcestershire Parkway is unlikely to disproportionately impact on this protected group.</td></tr>
<tr><td>Religion or belief</td><td></td><td>No</td><td>Available data for the catchment area has been analysed. Census 2011 data provides a breakdown by religious group or belief of those within 30 minute drive time of Worcestershire Parkway Station

<table><tr><th rowspan="2"></th><th colspan="9">Census 2011: Religion</th></tr><tr><th>Parkway 30 min Drivetime</th><th>Christian</th><th>Buddhist</th><th>Hindu</th><th>Jewish</th><th>Muslim</th><th>Sikh</th><th>Other Religion</th><th>No Religion</th><th>Not Stated</th></tr><tr><td>Number</td><td>201597</td><td>705</td><td>635</td><td>163</td><td>3451</td><td>620</td><td>1090</td><td>70599</td><td>20674</td></tr><tr><td>Percent</td><td>67%</td><td>0%</td><td>0%</td><td>0%</td><td>1%</td><td>0%</td><td>0%</td><td>24%</td><td>7%</td></tr></table>
The proposed construction of Worcestershire Parkway is unlikely to disproportionately impact on any individual group</td></tr>
<tr><td>Sexual orientation</td><td></td><td>No</td><td>It is considered that the proposed Worcestershire Parkway station will benefit all protected groups by improving access to employment, training, education and social opportunities. The proposed station would have no</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>disproportionate impact on this protected group, since access to services and facilities which may be specifically relevant to this group is already provided by the existing transport network, and would be improved by this addition to the transport network.</td></tr>
<tr><td>Sex</td><td></td><td>No</td><td>It is considered that the proposed Worcestershire Parkway station will benefit both males and females by improving access to employment, training, education and social opportunities.

<table><tr><th rowspan="2">Census 2011: Sex</th><th colspan="2">Parkway 30 min Drivetime</th></tr><tr><th>Number</th><th>Percent</th></tr><tr><td>Males</td><td>146,596</td><td>49%</td></tr><tr><td>Females</td><td>152,938</td><td>51%</td></tr></table>
The proposed station would have no disproportionate impact on any one sex, since access to services and facilities which may be specifically relevant to this group is already provided by the existing transport network, and would be improved by this addition to the transport network.</td></tr>
</table>

If the answer to question 2.3 is "yes" or "could be yes" then you **must complete an EIA**.

For existing policies, if the answer to question 2.4 is "yes" or "could be yes" then you **must complete an EIA**.

If the answer to questions 2.1 or 2.2 is "yes" or "could be yes" then you may need to complete an EIA. Please refer to Section 3 of the EIA Guidance document for further clarification on when an EIA should be completed.

2.5 Based on the factors above, is an Equality Impact Assessment required for this policy?

Yes	
No	No

An EIA is not always needed. Where you have decided that an assessment is not required please clearly summarise the reasons for your decision, including any factors you have taken into account, in the box below. Please then ensure this screening form is signed-off by your line manager and sent to the Corporate Equality and Diversity Team for publication.

EIA not required: reasons and additional comments
The proposed construction of Worcestershire Parkway will undoubtedly improve accessibility to employment and other opportunities that can be accessed by the Worcester – Oxford – Reading - London services and by Cross Country (South West/South Wales – Birmingham – North West/North East) services which currently bypass Worcestershire. The new facility will be linked to the existing transport (highway, local passenger transport, cycle and walk) network and via this to existing and proposed residential and commercial developments. In so doing it will provide Worcestershire's residents and businesses with improved access to employment and other opportunities served by the inter-city rail network. The proposed Worcestershire Parkway station will be designed to the latest design standards (as set out in Network Rail's Station Design Guide and related supporting documents), and will include the provision of the necessary step-free accessibility infrastructure (such as ramps, lifts and escalators). It is considered, therefore, that a detailed Equality Impact Assessment will not be required in this case. However, it is recommended, that a review of user needs (equality monitoring) is undertaken and included formally in the design process, to ensure that the preferred option design maximises accessibility and utility for all.

Signed (completing Officer/Manager): .....Kate Emerson..... Date: .....20/05/2013.....

Signed (Line Manager): .....S Hanson Date: ...20/05/2013.....